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JOURNAL OF THE MEDICAL ASSOCIATION OF GEORGIA

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Doctors in the Political Arena
Facing Challenges in the 1991 Georgia General Assembly

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"It is not the critic who counts,
not the man who points out how
the strong man stumbled
or where

the doer of deeds could have done better. The CREDIT belongs to the man who is actually in the arena, who is
injured by the dust and sweat and blood; who strives valiantly; who errs who errs
and comes up short again and again...

who knows the great enthusiasms,
the great devotions and
spends himself in a worthy cause;

who at best knows
in the end
the triumph of high achievement;
and who,
at the worst, if he fails,

failed while daring greatly,
so that his place will never be
with those cold and timid souls,
who know neither victory nor defeat."

— Theodore Roosevelt

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THE COVER

Daniel in the Lions' Den (Detail); Sir Peter Paul Rubens; National Gallery of Art, Washington, D.C.; Ailsa Mellon Bruce Fund. Date c. 1615.

The 1991 Georgia General Assembly poses many challenges to physicians and the way you practice medicine and care for your patients. The Georgia Capitol may appear to be like a "lions' den" to those not familiar with its ways. MAG is familiar with the political process and can effectively channel your involvement in the political process. Read the articles starting on pages 23 and 27.

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Dreams on a Winter Night

THERE IS SOMETHING about a fire that brings out the dreamer in person. With the first frost giving a valid reason for firing up the old fireplace, I am giving vent to the wistful, reflective side of my nature, hence, a combination of Christmas wishes (this goes to bed in December) and New Year optimism concerning the New Georgia Legislature of 1991-92. Come, throw your reality training and cruel cynicism to the winds and dream along with me. . . .

Wouldn't it be wonderful if this year's legislature would truly work with Medicine to make the state of Georgia everything it could be from the standpoint of health?

Wouldn't it be nice if they could re-establish a Board of Health and put a Commissioner of Health in place who could oversee all of the state's involvement with health and coordinate public and private initiatives?

And, wouldn't it be sensible if the state would work with the counties involved and do its fair share in support for the teaching hospitals in the state such as Emory, etc. in providing indigent care?

And, wouldn't it be prudent for the state to do away with all its mandated coverages in insurance so that an affordable basic health insurance policy could be provided for those Georgians not able to purchase standard insurance?

And, wouldn't it be humane if a risk pool could be worked out to provide coverage for the so-called uninsurable or poor risk patients?

And, wouldn't it seem logical to give Medicine the necessary protection it needs in peer review so that we could truly police ourselves as the press is so loud in its desire for us to do?

And, wouldn't it be prudent in this time of diminishing health care resources if a fair and equitable system could be devised that could compensate those patients truly injured by our deeds of commission or omission without making multi-millionaires out of a dozen or so "malpractice" plaintiff attorneys and creating an adversarial relationship between doctor and patient?

And, wouldn't it seem appropriate if the state moved to affirm the idea that medical doctors should "doctor" people and if someone desires to render medical care they should go to medical school and not seek to increase their scope of practice through legislation?

And, wouldn't it be the greatest thing in the world if, after this legislature session, the people of the State of Georgia would stand up and say to the General Assembly and the Medical Association of Georgia, "Thank you for acting in our best interest"?



William C. Collins, M.D.

Okay, I admit these are dreams, but this is a city and a state of dreamers.

Our state was founded by an English dreamer who thought there must be a better place for debtors than a London prison.

A young minister in Atlanta had a dream that white and black could work together, and the world would be a better place.

A young child at the Southside Atlanta gym dreamed a big dream and today he is the heavyweight champion of the world.

A young lawyer recently saw Atlanta as the site of the 1996 Olympics and despite the pessimism of most everyone, carried this idea to its full fruition.

Yes, our state has its share of dreamers, but dreams are of no significance unless we have action to make them happen.

So, General Assembly person and Mister MAG person — GET TO WORK!

William C. Collins

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QUOTES

*Pale January lay
In its cradle day by day,
Dead or living, hard to say.*
ALFRED AUSTIN: *Primroses*, 18

*By her who in this month is born
No gems save garnets should be
worn;
They will insure her constancy,
True friendship and fidelity.*
Author unidentified

A warm January; a cold May.
WELSH PROVERB

*No one ever regarded the first of
January with indifference. It is the
nativity of our common Adam.*
CHARLES LAN
New Year's Eve, 18
(*London Magazine*, Jan)

*Ring out the old, ring in the new
Ring, happy bells, across the
snow;
The year is going, let him go;
Ring out the false, ring in the true.*
ALFRED TENNYSON
In Memoriam, CVI, 18

*Conscience and cowardice are
really the same things.
Conscience is the trade-name of
the firm.*
OSCAR WILDE
The Picture of Dorian Gray, 18.

*Conscience makes egoists of us
all.*
IB

*Be not the first by whom the new
are tried,
Nor yet the last to lay the old
aside.*
ALEXANDER POPE
An Essay on Criticism, II, 17.

PERSONALS

Medical Association of Atlanta

More than 550 Atlantans, many of whom were area physicians, recently honored **Nicholas Davies, M.D.**, for his service with the Visiting Nurse Association, the largest nonprofit home health care provider for Metropolitan Atlanta. Dr. Davies, who has practiced as an internist and cardiologist at Piedmont Hospital since 1957, is president-elect of the American College of Physicians. He was recognized for his leadership on the VNA Board of Directors and his 15 years of service to the organization.

"Nick Davies has been willing to address controversial health care issues head on," remarked Kathy Ziegler, CEO of the Visiting Nurse Corporation. "As a result of his support and direction, VNA created the first program in Georgia which offered AIDS patients in-home health care."

Founded in 1948, the Visiting Nurse Association was Atlanta's first home health care organization. It presently serves 10,000 patients annually in 26 Georgia counties. This service includes Alzheimer's Care, AIDS health services, and Hospice Atlanta.

Ocmulgee CMS

Reuben S. Roberts, Jr., M.D., of Hawkinsville, has been named a Fellow of the American Academy of Family Physicians.

Whitfield-Murray CMS

Luis M. Viamonte, M.D., a Dalton pediatrician, has been elected president of the medical staff at Hamilton Medical Center for a one-year term. Dr. Viamonte joined the staff in 1978.



Dr. and Mrs. Nicholas Davies, of Atlanta, at the event sponsored by the Visiting Nurses Association honoring Dr. Davies for his years of leadership and service to the VNA.

QUOTES

They talk about conscription as being a democratic institution. Yes; so is a cemetery.

MEYER LONDON: *Speech in House of Representatives*, April 25, 1917

There is no consciousness except when molecular disturbance is generated in the cerebrum and cerebellum faster than it can be drafted off to the lower centers.

JOHN FISKE:

The Destiny of Man, v, 1884

There would be no great ones if there were no little ones.

GEORGE HERBERT:

Outlandish Proverbs, 1640

I thank God I am as honest as any man living that is an old man and no honester than I.

SHAKESPEARE:

Much Ado About Nothing, III, c. 1599

The natural man has a difficult time getting along in this world. Half the people think he is a scoundrel because he is not a hypocrite.

E. W. HOWE: *Sinner Sermons*, 1926

Some feelings are to mortals given, With less of earth in them than Heaven.

WALTER SCOTT: *The Lady of the Lake*, II, 1810

Annual Survey Finds Georgians Support Increased Public Funding for Health Care

THERE IS A GROWING desire among Georgians for all citizens to receive adequate health care services regardless of their ability to pay, according to the findings of a recent statewide survey.

The poll, commissioned by the Georgia Hospital Association (GHA) as part of its annual evaluation of health care issues, identified health care as a legislative priority and revealed strong support for additional public monies to ensure that low-income Georgians receive routine and preventive medical services.

A statistical representation of people throughout Georgia took part in the summer 1990 telephone survey which addressed some of the major health care concerns confronting the state in the decade ahead. The questions were designed to gauge the public's perception of the current health care delivery system, as well as to determine their expectations for improvement.

Is access to health care services a privilege? Do the state and individual counties have a responsibility to provide health care services to the poor? Are Georgians willing to pay more in taxes so that everyone can receive health care services? Are people satisfied with the quality of care they receive from their local hospital?

The survey revealed that a growing number of Georgians (93 percent) believe that health care services should be accessible to all citizens, regardless of an individual's ability to pay. That figure represents a 7 percent increase over a similar survey conducted by GHA in 1989.

Nearly four out of five respondents (78 percent) indicated that the state should provide an affordable insurance product for low-income workers who do not have policies. Young adults aged 18 to 29 were more apt to favor such an insurance product (89 percent) than were respondents aged 50 or older (71 percent).

There was equal support from the survey group for the state to develop a special insurance product for Georgia residents who cannot obtain coverage due to pre-existing medical conditions. Again, four out of five respondents (83 percent) said they would favor such a program. Although legislation was passed by the Georgia General Assembly in 1989 for this purpose, the necessary funds have yet to be appropriated.

Overall, respondents were sympathetic to the concerns of citizens who do not have access to routine health care services and supportive of programs that would seek to improve their quality of life. While several states have passed legislation to ration or limit health care, two-thirds (67 percent) of Georgians responding to the GHA survey said they are opposed to the concept. Atlantans expressed higher opposition to rationing health care (71.5 percent) than did those living in North Georgia (67 percent) and South Georgia (56 percent).

How Should Health Care Services for the Poor Be Funded?

Those participating in the survey expressed support for the funding of programs to improve health care in the state. Three-fourths of the respondents (77.5 percent) indicated that additional money is needed from the state to fund health care.

Georgians also strongly believe that every county should be required to contribute to the health

care costs of its own residents who are poor, according to four out of five respondents (83 percent).

However, most of those participating in the survey expressed confusion about current county funding for hospital treatment of their poor residents. Almost half of those surveyed (45 percent) were under the impression that this funding is in place already, while another 33 percent indicated that they did not know. The reality is that less than 33 percent of Georgia counties (52 of 159 counties) provide any funding to their local hospital to care for patients who cannot afford to pay for services and who do not have insurance.

Surprisingly, two out of five of those holding management positions (40 percent) and those earning in excess of \$50,000 annually (43 percent) said that they did not know if hospitals received county funding.

When asked whether they would personally be willing to pay more taxes to support programs covering health care expenses for those unable to pay, two out of every three Georgians (65 percent) advocated increased taxes for this purpose. Groups that heavily favored increased taxes included blue collar workers (74 percent); young adults aged 18-29 (73 percent); and those with annual incomes of \$25,000 to \$50,000 (72 percent).

Health Care Is A Top Priority

Survey participants also were asked to rank several leading issues in terms of priorities for the new governor.

Controlling health care costs ranked second (22.5 percent) behind improving the state's education system (41 percent). Funding for education was favored more

highly by those with college degrees and higher incomes.

More funding to combat the drug problem was cited as a priority by 21.8 percent of respondents, while building more prisons was most important for only 6 percent.

Hospitals Examined

In 1990, four out of five Georgians surveyed (80 percent) believed they would be satisfied with the care received from their local hospital. This response represented an 11 percent increase in the positive perceptions Georgians held about their hospitals in 1989.

Although there are a number of reasons health care costs are rising, survey participants were asked what they thought contributed most significantly.

The highest number of respondents (21 percent) said that malpractice lawsuits were the cause. Another 17.5 percent felt that inadequate government programs, such as Medicare and Medicaid, were to blame.

Interestingly, those who were more likely to use these programs rated government shortfalls more highly. They included citizens with little or no high school education; those earning less than \$25,000 annually; and those who are aged 50 or older. In comparison, participants with higher income and education levels were more likely to believe that malpractice suits were fueling the increases.

Initiatives for Quality Health Care in the Nineties

Quality health care has emerged as one of the greatest concerns of Georgia residents, according to the survey, and an issue that the state's new administration must take a strong leadership position to resolve.

Accessibility to health care services for Georgia's poor is at a low point. Hospitals are treating a growing number of patients with life-threatening conditions that could have been prevented with routine primary care. Most of these patients are among the one million Georgians who are uninsured; many others are insured but have inadequate coverage. Their ability to receive routine examinations or treatment for conditions such as prenatal care has been limited or completely cut off.

Among the Georgia Hospital Association's suggestions for tackling the problem in 1991 is a state health insurance package that would provide protection for individuals who have no other opportunity to obtain basic health care services. The program would be available to residents with incomes near the poverty level who have been without insurance coverage for the previous 2 years.

The segment of the population most affected by limited access to health care is children, and the consequences are sobering. Georgia's infant mortality rate, for instance, is one of the highest in the world.

Expansion of Medicaid benefits in Georgia is necessary so that children in families with incomes under 100 percent of the federal poverty level may receive medical treatment up to the age of eight. GHA estimates that such a measure would give an additional 5,250 young Georgians whose parents are unable to pay for medical services access to primary health care.

In addition, eligibility requirements must be improved so that pregnant mothers can receive care consistent with federal standards. Almost 13,000 mothers could be added to the state's Medicaid rolls in the first year of such an expansion, GHA estimates, giving them access to the health care they need for the welfare of their unborn babies.

Georgians continue to support programs that provide the most basic treatment for children, as well as state-sponsored insurance policies for workers who have no other place to turn for coverage. According to the 1990 survey of health care issues, state residents overwhelmingly stand behind the belief that access to adequate health care services is not a privilege, but a basic human right.

(This page is sponsored by the Georgia Hospital Association.)

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You Are My Hero, Edwin Newman

*title that you'll have to share
 With Tom and other ones who care
 To save our native language where
 Communication bones are bare.*
*Or overlarded, thick with fat
 Contemporary, "where it's at."
 Confused, improper, poor verbat
 To bring to all the message that*
*Those proper phrases, words and things
 Are for erudite overlings
 Whose supercilious smile it brings
 To all the etymologic kings*
*Who revel in our speech supreme
 Each proper and exact phoneme
 And clearly live about the teem
 Of garbled speech en masse in ream*
*Propriety in speech I seek
 And shun the orthographic weak
 To reach the polysyllabic peak
 With Civil Tongue to Strictly Speak*

Yes, My Darling Dāt*

*Will everyone please, resist the disease
 Of changing words plural to singular
 However unique, it still will bespeak
 A defect that is Latin, not lingular.*
*If I may mention, it's but through declension
 If your sex or your virtue is pending
 To be thought as refined, you must first be declined
 To determine the "a" of your ending.*
*Datum's neuter quite true, but its plural is too
 Not a singular damsel is data (dāta)
 So do not rearrange with operation sex change
 Which is really the heart of the matter (mater).*

**Dedicated to all the "diverticuli" in the world.*

JOHN P. WILSON, M.D.

Dr. Wilson practices general surgery in Atlanta.

Question

*New Year's come;
 Memories gleam.
 Are fading years
 What they seem?*

*Are futures always
 Brighter than
 The brightest past
 For every man?*

*Does happiness fade?
 Or can it be
 That hope is brighter
 Than memory?*

To Dock at Stars

*If I could use my wasted years once more,
 How slow, how sweet, would be the gentle hours
 With you! Waves that climb the silent shore
 Of night to touch the gray cathedral towers
 Of dawn must seek for treasures they attain;
 And so must I for keys that lock the past
 In velvet vaults of memory in vain.
 A hope still sails with ever-swaying mast
 And billowed sail across the evening sky
 Of time. When waves have stopped to taste the
 sands,
 And dreams have docked at stars, shall I ask why
 The anchor drop sends ripples from my hands
 To shores that rim the silver seas of sleep?
 How bright, how real, the memories I keep!*

JOHN RANSOM LEWIS, M.D.

Dr. Lewis, a plastic surgeon in Atlanta, is Georgia's Poet Laureate.

Of Time And The New Year

“To every thing there is a season, and a time to every purpose under heaven; A time to be born, and a time to die; and a time to plant, and a time to pluck up that which is planted.”

ECCLESIASTES 3:1-2

“Although our methods of keeping time are highly advanced, our methods of reckoning time are archaic, illogical and complex. The minutes in an hour, the hours in a day, and the days in a week are all counted according to different number systems, none of which fully utilizes the advantages of decimal notation. This sin against reason is compounded by the needlessly irregular lengths of our months. Measured time, which should possess the clarity and symmetry of metric space, is instead a jumble of dissimilar and irregular forms. Our own universally-accepted method blinds us to the natural coherence of time, turning the simplest calculations into difficult and painful problems.

We commonly conceive of time as something external to ourselves. Modern physics has established time and space as parts of the same continuum and thus by implication integrated time into the heart of all things perceived; but modern language, common sense and humanistic inquiry lag far behind. We still

think and speak in cliches which suggest that time is outside of us, something which “passes,” something we can “spend,” “serve,” or “kill”; something which, though admittedly a part of the natural order, runs a course of its own. While natural science has attained a temporal understanding which is not only realistic but strangely beautiful and evocative; our own more general awareness of time has changed little since the days when Galileo was hauled before the Inquisition. Our world of time is as flat and exclusive as some medieval map.”

ROBERT GRUDIN,
Time and the Art of Living

“Today scientists describe the universe in terms of two basic partial theories — the general theory of relativity and quantum mechanics. They are the great intellectual achievements of the first half of this century. The general theory of relativity describes the force of gravity and the large-scale structure of the universe, that is the structure on scales from only a few miles to as large as a million million million million (1 with twenty four zeros after it) miles, the size of the observable universe. Quantum mechanics, on the other hand, deals with phenomena on extremely small scales, such as a

millionth of a millionth of an inch. Unfortunately, however, these two theories are known to be inconsistent with each other — they cannot both be correct. One of the major endeavors in physics today, and the major theme of this book, is the search for a new theory that will incorporate them both — a quantum theory of gravity.

Einstein’s general theory of relativity, on its own, predicted that space — time began at the big bang singularity and would come to an end at the big crunch singularity (if the whole universe recollapsed), or at a singularity inside a black hole (if a local region, such as a star, were to collapse). Any matter that fell into the hole would be destroyed at the singularity, and only the gravitational effect of its mass would continue to be felt outside. On the other hand, when quantum effects were taken into account, it seemed that the mass or energy of the matter would eventually be returned to the rest of the universe, and that the black hole along with any singularity inside it, would evaporate away and finally disappear. Could quantum mechanics have an equally dramatic effect on the big bang and big crunch singularities? What really happens during the very early or very late stages of the universe, when gravitational fields are so strong that quantum effects cannot be ignored? Does

the Universe in fact have a beginning or an end? And if so, what are they like?"

STEPHEN W. HAWKING,
A Brief History of Time

How sour sweet music is when time is broke, and no proportion kept!

Is it in the music of men's lives?

And here have I the daintiness of time

check time broke in a disorderd string;

But for the concord of my state and time

And not an ear to hear my true time broke.

Time wasted time, and now doth time taste me."

SHAKESPEARE, *Richard II*,
Act 5, scene 5

HE HAS COME to us again.

January. The "New Year." It seems no "time" at all since we are making plans, "resolving,"

1990. It was to be a momentous year you will recall.

The entrance year to the last decade of the nineteen hundreds.

The countdown to 2000.

somehow, though, she is gone, 1990 is. A bright new infant year beckons us. Smiles alluringly at

Winks voluptuously and invites us to "plan" the manner in which we shall use her. We have

before us a neatly wrapped parcel of "time" with a beginning and an

end. Beyond the mandate that we must do something, or nothing,

with this segment of "time" is that equally important matter of when

we exercise our action. We must deal with "time" and with

timing." It is a matter studied by our "thinkers" through the years.

the cosmologists, and in addition his stature as a theoretical

Should our lives, our pursuit of the practice of medicine, be as a symphony orchestra, and in a sense it is such, then we must play homage to our timing. ♪

physicist Stephen Hawking is such, have pondered the impenetrables of "time" and "space" coining phrases such as "Big Bang" — "Big Crunch" — and "Singularity" in order to give substance, understanding, to their concepts. But we physicians also live in "time" and in "space." Nineteen hundred ninety-one sits on our doorstep, and we must do something with her.

I sat one evening recently in a great symphony hall listening to the Concerto for Piano and Orchestra written by John Corigliano. Not exactly a household word, "Corigliano," at least not so to this musical amateur. He is "American," I found out in the program notes. Born in New York City the son of a violinist and one time concertmaster of the New York Philharmonic. His musical education was also "American" which itself strikes a welcome chord in these days of fervent patriotism. The Concerto is "brilliant and theatrical" I was told and so found it. Other adjectives might also serve, *exciting, bold, brash, even melodic*. But what I found equally interesting was John Corigliano's approach to his audience — to his patrons — to his "patients." John Corigliano said, "I care deeply about communicating with

my audiences. For quite a while now, too many composers have seemed not much interested in communication, particularly with large audiences and this has tended to give modern music a bad name. . . . The pose of the misunderstood artist has been fashionable for quite a while, and it is tiresome and old fashioned. I wish to be understood, and I think it is the job of every composer to reach out to his audience with all means at his disposal." Oh, how we as physicians need to think about that. Oh, to be "understood" by each of my patients — by my third party payors — by my government — even by my legal counsel and sometime adversary.

Symphonic musicians are interesting to watch, as well as to listen to, providing one takes to the concert a decent pair of binoculars. Long periods of inactivity, or so it seems, passes for some of them while their fellow musicians carry on the music. At such times one can imagine their thoughts or whispered conversations. "Can you imagine him missing that high C?" "One more step back and Shaw is going off that podium on his butt." "God help me, I burned the beans trying to get here before he lifts that damned baton."

While Corigliano works his way through the symphony, I found myself on this particular night watching the percussionists and in particular Billy Wilder. We had known Billy Wilder since high school when he taught the youngest off spring percussion — drums — loud drums to be exact. One must attempt sleep between the staccato of a snare drum and the deep melodious rumble of the kettle to claim any reasonable degree of competence in

appreciating the percussion section of a symphony orchestra. But on this particular night, our Billy, he whose instructions and admonitions to our child had led to so many restless hours of disturbed repose, stood poised before his array of percussion equipment holding a triangle, gentlest of his armamentarium. The Corigliano concerto crashed ahead, the brass blaring and the strings rising to a crescendo. Suddenly, with rapt attention to timing and coordination with his musical peers, Billy struck that triangle a single soft but delicate blow. That lonely note — sound — lost itself to my untrained ear as the brass and the strings thundered on. Not so for the percussionist. The written score, the years of training, the finely tuned ear, the perfect sense of timing bought him to that point in “time” when the triangle must be struck. What to me had been but a lone note lost in the thunder of a symphony was to him and his fellow musicians an integral part of the composition placed precisely at a point in time. Billy Wilder sat again upon his stool, a

“A bright new infant year beckons us. Smiles alluringly at us. Winks voluptuously and invites us to “plan” the manner in which we shall use her.”

comfortable and confident expression upon his solemn face.

The “1991 Symphony” is about to raise the baton and launch the music. Many things will be asked of us who sit as musicians and those of us who reside in the audience. In the symphonic sense, we will be asked to play a variety of instruments. Play them we cannot avoid and play them well we must. At times the smooth harmonious blending of melody will be needed to bring a cooperative and successful effort to the issues confronting us. At other times only the crashing of cymbals will call attention to the importance and depth of our resolve to stand firm on a

particular belief. And then surely perhaps on many occasions, we will be called upon to await that one significant moment when the bare touch of a triangle must satisfy the need for our help and our desire to give help.

“Time” flows by us as a quiet moving river or a smoothly crafted symphony. It will not await inattention or indecision but rather moves relentlessly on. Our yesterdays become our todays and our todays our tomorrows. Should our lives, our pursuit of the practice of medicine, be as symphony orchestra, and in a sense it is such, then we must pay homage to our timing. We must look for and await that proper interval both in our healing efforts and in our organizational efforts when we are most needed and when we are most likely to gain our ends. “Time, everything there is a season, and a time to every purpose under the heavens: a time to be born, and a time to die; a time to plant, and a time to pluck up that which is planted.” A time for triangles and a time for crashing drums.

CL

FEBRUARY 1991

9 — *Steamboat Springs, CO: New Horizons in Anesthesiology.* Category 1 credit. Contact Office of CME, Emory Univ. Sch. of Med., 1440 Clifton Rd., Atlanta 30322. PH: 404/727-5695.

9 — *Atlanta: Pediatric Orthopaedic Seminar.* Contact Arlene Baugus, Scottish Rite Children's Medical Center, 1001 Johnson Ferry Rd., N.E., Atlanta 30363. PH: 404/250-2138.

11-12 — *Atlanta: TC-99M Myocardial Spect.* Category 1 credit. Contact Office of CME, Emory Univ. Sch. of Med., 1440 Clifton Rd., Atlanta 30322. PH: 404/727-5695.

11-15 — *Atlanta: Modern Methods of Diagnosing and Treating Diabetes Mellitus and Its Complications.* Category 1 credit. Contact Office of CME, Emory Univ. Sch. of Med., 1440 Clifton Rd., Atlanta 30322. PH: 404/727-5695.

15-16 — *Atlanta: Retina Conference.* Category 1 credit. Contact Office of CME, Emory Univ. Sch. of Med., 1440 Clifton Rd., Atlanta 30322. PH: 404/727-5695.

22-23 — *Atlanta: 28th Annual Ophthalmology Conference.* Category 1 credit. Contact Office of CME, Emory Univ. Sch. of Med., 1440 Clifton Rd., Atlanta 30322. PH: 404/727-5695.

25-1 Mar. — *Atlanta: Modern Methods of Diagnosing and Treating Diabetes Mellitus and Its Complications.* Category 1 credit. Contact Office of CME, Emory Univ. Sch. of Med., 1440 Clifton Rd., Atlanta 30322. PH: 404/727-5695.

MARCH 1991

1-2 — *Augusta: Flexible Fiberoptic Sigmoidoscopy.* Category 1 credit. Contact Div. of Cont. Ed., MCG, Augusta 30912-1400. PH: 404/721-3967.

2-9 — *Snowmass, CO: Sixteenth Annual Snow Job in Gynecology and Obstetrics.* Category 1 credit. Contact Office of CME, Emory Univ. Sch. of Med., 1440 Clifton Rd., Atlanta 30322. PH: 404/727-5695.

11-15 — *Atlanta: Modern Methods of Diagnosing and Treating Diabetes Mellitus and Its Complications.* Category 1 credit. Contact Office of CME, Emory Univ. Sch. of Med., 1440 Clifton Rd., Atlanta 30322. PH: 404/727-5695.

11-16 — *Augusta: 26th Annual Family Practice Symposium.* Category 1 credit. Contact Div. of Cont. Ed., MCG, Augusta 30912-1400. PH: 404/721-3967.

22 — *Macon: 1991 Cherry Blossom Psychiatric Symposium.* Category 1 credit. Contact Robert Fore, Ed.D., Division of CME, 777 Hemlock St., Macon 31201. PH: 912/744-1061.

22-23 — *Augusta: Ophthalmology.* Category 1 credit. Contact Div. of Cont. Ed., MCG, Augusta 30912-1400. PH: 404/721-3967.

25-26 — *Atlanta: Quantitative Thallium Myocardial Tomography.* Category 1 credit. Contact Office of CME, Emory Univ. Sch. of Med., 1440 Clifton Rd., Atlanta 30322. PH: 404/727-5695.

25-29 — *Atlanta: Modern Methods of Diagnosing and Treating Diabetes Mellitus and Its Complications.* Category 1 credit. Contact Office of CME, Emory Univ. Sch. of Med., 1440 Clifton Rd., Atlanta 30322. PH: 404/727-5695.

APRIL 1991

5-6 — *Atlanta: Pharmacology for the Anesthesiologist.* Category 1 credit. Contact Office of CME, Emory Univ. Sch. of Med., 1440 Clifton Rd., Atlanta 30322. PH: 404/727-5695.

7-10 — *Atlanta: Advanced Demonstrations in Percutaneous Transluminal Angioplasty XXV.* Category 1 credit. Contact Office of CME, Emory Univ. Sch. of Med., 1440 Clifton Rd., Atlanta 30322. PH: 404/727-5695.

15-16 — *Atlanta: TC-99M Myocardial Spect.* Category 1 credit. Contact Office of CME, Emory Univ. Sch. of Med., 1440 Clifton Rd., Atlanta 30322. PH: 404/727-5695.

15-19 — *Atlanta: Modern Methods of Diagnosing and Treating Diabetes Mellitus and Its Complications.* Category 1 credit. Contact Office of CME, Emory Univ. Sch. of Med., 1440 Clifton Rd., Atlanta 30322. PH: 404/727-5695.

17-19 — *Atlanta: Nutrition and Cancer.* Category 1 credit. Contact Office of CME, Emory Univ. Sch. of Med., 1440 Clifton Rd., Atlanta 30322. PH: 404/727-5695.

20-21 — *Augusta: Current Concepts in Carnitine Research.* Category 1 credit. Contact Div. of Cont. Ed., MCG, Augusta 30912-1400. PH: 404/721-3967.

26-28 — *Augusta: Frontiers in Nutrition.* Category 1 credit. Contact Div. of Cont. Ed., MCG, Augusta 30912-1400. PH: 404/721-3967.

27-28 — *Augusta: Pathology Symposium.* Category 1 credit. Contact Div. of Cont. Ed., MCG, Augusta 30912-1400. PH: 404/721-3967.

Dear Editor,

I have read the article by Dr. Doug Skelton, "Quality Predoctoral Training in the Ambulatory Setting," (Dec. 90) and believe that it represents the thoughtful opinion of the author based on, his experience and that of others gleaned from the literature.

Dr. Skelton, of course, defines problems which include those of decreasing emphasis on inpatient education, lack of preparation of the practicing physician to function effectively in the outpatient setting, need for greater exposure to ambulatory care by the students, the lack of popularity associated with a less than ideal perceived image of the ambulatory care setting for education, etc.

Dr. Skelton further defines attempts to improve education in the ambulatory setting and the failure of those attempts secondary to a lack of departmental ownership and a loss of faculty through financial lures in areas other than ambulatory care, the latter being under funded from all sources.

His suggestions for solution are broad based, indeed, and predominantly philosophic. They, of course, include design of the curriculum to meet specific goals, evaluation of outcome and evaluation of the product, curricular problems which would require change and those changes would include timing, length of experience, and mix of faculty resources, etc. Dr. Skelton defines Family Practice as the model for the delivery of ambulatory care and in doing so cites other disciplines in primary care which he feels would be less effective. He discusses the need for a reward system for the faculty who are involved in the ambulatory

education settings as well as the residents role as a teacher. He comes to the conclusion that there is a need, that that need must be recognized and commitment to solution be foremost in the dedication of the top echelon of administration, that individual institutional support as well as the suggestion of federal support would be necessary and that curriculum change and faculty reward systems would require attention. He, in addition, states that space, time, and costs need to be assessed prior to the institution of this suggested change.

In summary, I believe that Dr. Skelton's thoughts are commendable. He recognizes a major problem and problems within that major setting and suggests broad approaches to solution.

*Sincerely,
Arlie R. Mansberger, Jr., M.D.
Professor and Chairman
Department of Surgery
Medical College of Georgia*

Dear Editor,

Reading for understanding calls for much reading between the lines. The November issue left me wondering just what is afoot in the leadership councils of MAG. And whether I should laugh or cry.

Ethics is certainly a pervasive matter for any professional. Essential principles must serve as the ground for ethical thinking and action. When the ground begins to shift, serious disruptions follow close on. Any profession which will sell out its principles for money or politics becomes a mere trade. Are we about to do that?

If the decision is left to academics and newspaper men, we have a foregone conclusion as regards national government control of medicine. Eugene Patterson begs the question, to be sure. Why was he asked for his statist totalitarian views, stale leftovers from the Great Society? Medicare, supported by him as he said and enacted over the "snarls" of a potent opposition, is now bankrupt in nearly every way. Wise men predicted this. But for Patterson, the answer is now total government control, more of the same bad medicine. Such a system would be administered by dollar and vote-driven politicians and bureaucrats. If we seek a fundamental change in medical care, Patterson's proposal for payment for "virtually all medical bills with tax money" is not that. The media, including some of our own medical press, are having a love affair with the Canadian plan. This is just another of those end-of-the-rainbow phenomena from the cloudy minds of dreamers. In practice, any totalitarian federal program for medicine will become a prison for doctors and patients alike. Every aspect of such a system tends to be paralyzed by bureaucratic attempts to make it work and fosters that spiritual disease from which the people of Russia and eastern Europe are trying to recover.

None of us really likes the mess we have today, but Eugene Patterson's sclerotic ideas won't work. His super-Medicare paid by tax dollars does not face the real problem at all.

An expensive, valuable, labor-intensive service offered at no direct cost to the person served will break every budget. Congress and the insurance companies try now to fix blame on doctors and

hospitals, assuming the answer to medical costs is to keep prices down. Both have obligated themselves to pay for services which are valuable and the demand for which is unlimited. To offer such services with no cost to the person served at the time of service removes an essential mechanism which must operate in human life: individual responsibility. Payment at the time of service is not high enough to force the user to (1) think hard; (2) plan ahead; (3) bargain on cost; (4) defer unnecessary care; (5) terminate service as soon as possible; (6) seek alternative solutions; (7) use consistent preventive measures to avoid disease. The most fundamental principle on which this whole matter of medical care hinges is whether a person is responsible for his health and repairs to it, or not. If he is not, who is? The politicians, the Eugene Pattersons, and a lot of the medical profession have answered that everybody is responsible. If so, nobody is responsible, a situation which is totally amoral and disastrous. Such fosters every form of irresponsible behavior. Were the government to take on similar efforts to build equitable housing for everyone and pay for it through taxes, and to provide food for everyone and pay for it through taxes, these industries would soon be utterly destroyed and the essentials they provide in very short supply. Thank God these areas of life remain responsive to market forces. In our profession, the myth of the omnipotent servant has been grafted on to medical services and the profession faces disaster. Government should get out of medical services. We physicians should serve our patients and our patients only. We cannot serve

two masters and will inevitably come to serve government under a national health program. He who pays the piper will call the tune.

Hamlet's dilemma is reflective of ours as physicians: to be or not to be. Are our MAG leaders readying us for a sell-out to national health? I hope not, but fear so. We have helped weave a rope for many years which will hang our profession and those we serve if it is not cut.

Very truly yours,
Stephen W. Edmondson, M.D.
Psychiatrist, Atlanta

Dear Editor,

This is to express thanks and to congratulate you on the outstanding new MAG Directory.

It is very informative and has an excellent format. Keep up the good work.

Best wishes for a Happy Holiday Season.

Sincerely yours,
Milton I. Johnson, M.D.
Family Practitioner,
Macon

Dear Editor,

I have been quite disappointed since the Georgia Legislature ordered the double line prescription. I thought double line prescription pads was an efficient way for the physician to designate whether generic or brand name medications could be given.

I recently discussed this with the State Board of Pharmacology and have found that although we have a single line for our name it is also appropriate that we have an additional line for brand necessary. I have had my printer do this for my prescriptions and would recommend this for other physicians.

Sincerely yours,
John A. Goldman, M.D.
Internist, Atlanta

QUOTES

It is the hardest thing in the world to put feeling, and deep feeling, into words. From the standpoint of expression, it is easier to write a "Das Kapital" in four volumes than a simple lyric of as many stanzas.

JACK LONDON:
To Anna Strunsky Walling, Dec. 27, 1899

I ran from grief; grief ran and overtook me.

FRANCIS QUARLES: *Emblems, II, 1635*

Nature has given us life at interest like money, with no day fixed for repayment.

CICERO:
Tusculanæ disputationes, I, 45 B.C.

It is not the object of war to annihilate those who have given provocation for it, but to cause them to mend their ways; not to ruin the innocent and guilty alike, but to save both.

POLYBIUS: *Histories, v*

The sinews of war are infinite money.

CICERO: *Orationes Philippicæ, v, c. 60 B.C.*

Life, to be worthy of a rational being, must be always in progression; we must always purpose to do more or better than in time past. The mind is enlarged and elevated by mere purposes, though they end as they begin by airy contemplation.

SAMUEL JOHNSON:
To Hester Thrale, Nov. 29, 1783

AIM HIGH



BE AN AIR FORCE PHYSICIAN.

Become the dedicated physician you want to be while serving your country in today's Air Force. Discover the tremendous benefits of Air Force medicine. Talk to an Air Force medical program manager about the quality lifestyle, quality benefits and 30 days of vacation with pay per year that are part of a medical career with the Air Force. And enjoy the satisfaction of a general practice without the financial and management burden. Today's Air Force offers an exciting medical environment and a non-contributing retirement plan for physicians who qualify. Learn more about becoming an Air Force physician. Call

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Cure For Hepatitis? "Physician, Heal Thyself," And He Did

Carson B. Burgstiner, M.D.

THIS IS A TALE of tragedy and triumph and the discovery of an apparent cure for a disease of national and international importance.

In 1983, at the height of my career as an obstetrician-gynecologist, I contracted Hepatitis B. I had stuck my finger while operating on an infected patient with a dermoid cyst of the ovary. Neither of us knew she had hepatitis. After I was diagnosed, I notified the Centers for Disease Control (CDC) and the State Board of Medical Examiners that I was a Hepatitis B, E-Antigen carrier. I was given guidelines to follow and subsequently volunteered to have epidemiologic studies done on my patients.

A comedy of disasters followed: Front page headlines in the *Savannah Morning News* that "source of local hepatitis outbreak discovered."

Subsequently, the CDC and local Health Department proved that none of the 26 cases of hepatitis in Chatham County were patients of mine, and I was exonerated (on the back page) by the newspapers. After 26 years of medical practice *without* a lawsuit, suddenly I had *two* who claimed that exposure by surgery had caused their Hepatitis B. Both patients had other sources of exposure, nonetheless, both suits were settled by the insurance

“The impact of thymic hormonal replacement has enormous potential in immune system diseases, from single allergies and hay fever to rheumatoid arthritis, lupus, cancer, and AIDS.”

company without a fight — no further adverse publicity was needed. I then discontinued obstetrics and major surgery, bought out my malpractice tail coverage, and limited my practice to minor surgery and office gynecology. The economic and emotional impact was truly devastating. A highly trained, motivated and skilled microsurgeon with a large surgical practice suddenly sending all of his patients to colleagues for obstetrics and major surgery.

Dr. Burgstiner is a Board certified Obstetrician-Gynecologist, who now limits his practice to Gynecology, in Savannah, Georgia. He is a past president of the Medical Association of Georgia and is Vice-Chairman of the Georgia delegation to the AMA. Dr. Burgstiner is a fellow of the American College of Surgeons and a Fellow of the American College of Preventative Medicine. His address is 5354 Reynolds St., Ste. 304, Savannah, GA 31405.

The real tragedy, however, is that a chronic Hepatitis B carrier in the United States has a 25% chance of dying of liver cancer. The incidence is much higher in the undeveloped nations.

The best current treatment for Hepatitis B is prevention. Vaccines have been available since 1982 and are both safe and effective. Tragically, health care personnel are not using the vaccines. The vaccines are truly the first anti-cancer vaccines ever developed. In addition to plasma-derived vaccines (seldom used in this country), there are several vaccines manufactured by recombinant DNA technology. Hepatitis immune globulin is also of use in exposed cases.

There is clearly an epidemic of both AIDS and Hepatitis B in the United States, with some 25,000 Americans diagnosed with AIDS to date and over 300,000 new cases of Hepatitis B diagnosed yearly. AIDS and Hepatitis B are spread by exactly the same mechanisms — blood and body fluids, sex, infected newborns, and the sharing of contaminated needles. Hepatitis B is by far the most important chronic viremia in the world, with more than 300 million chronic carriers and 1.5 million people dying each year globally from the main effect of Hepatitis B, namely *liver cancer*.

A minority of health care

workers have been vaccinated and shockingly only 24% of physicians. The infection rate in China, Southeast Asia, and tropical Africa with Hepatitis A is 70-90%, Hepatitis B is 15-20% with primary Hepato-Carcinoma as the most common cancer in these areas.

Now, the Good News

My professor of pathology in medical school was W.A.D. Anderson, M.D., the noted author of the pathology textbook still used in most medical schools in this country. W.A.D. said that "if you maintain normal physiology you prevent disease and pathology."

This has always been the basis of my medical practice. I have believed for the last 29 years in preventive medicine, nutrition, exercise, and hormonal replacement. *If a gland dries up, replace it.* Physicians have always treated hormone deficiencies involving the thyroid gland, pancreas gland, adrenal gland, etc. with physiologic hormone replacement. For some reason, hormone replacement for the thymus gland has been largely ignored, although the thymus gland has always been credited with controlling the immune system.

Last year at the age of 56, and in otherwise excellent physical condition, I reasoned that my thymus gland had indeed atrophied and was no longer functioning. I had always been taught that the thymus gland (within the chest) was large in infants and children but atrophied from approximately age 20 on.

I began taking Immunoplex 402 A with Beta Carotene and within 3 weeks, the E-Antigen became

Physicians have always treated hormone deficiencies involving the thyroid gland, pancreas gland, adrenal gland, etc. with physiologic hormone replacement. For some reason, hormone replacement for the thymus gland has been largely ignored. . . .

weakly positive and the SGPT and SGOT liver studies became normal. I then took two Immunoplex daily and three weeks later became E-Antigen negative and antibody positive. I notified the CDC and had blood drawn at Candler Hospital and sent to Mass General (Harvard) and Scripps Institute in California. Many studies including PCRs, DNA, etc. were done, all negative with no trace of virus in my system and Scripps Institute in California.

I had been communicating with a gastroenterologist-hepatologist researcher, Dr. Milton G. Mutchnick, at Wayne State University, Detroit, Michigan. He had published controlled studies of converting 9 out of 12 (75%) of patients who were carriers of Hepatitis B. The patients were treated with thymosin injections and responded to treatment, cleared the Hepatitis B virus DNA from the serum, and normalized their liver function studies. Only 2 out of 8 (25%) treated with placebo, had a spontaneous conversion. I had planned on getting in his next treatment

group this year. When I converted, I called him and he asked, "What in the world did you take?" I told him oral thymus. Then he said, "Thymus injections are what I use to convert my patients."

The NIH and FDA will not support a study with the Immunoplex 402 A, since it is a combination of drugs including thymus enzymatic polypeptide fractions, crude thymus extract, thymosin, thymopoietin and thymus humoral factor, other nutrients, herbs, vitamins and enzymes.

The impact of thymic hormone replacement has enormous potential in immune system diseases, from simple allergies and hay fever to rheumatoid arthritis, lupus, cancer, and AIDS. This simple glandular hormone could be the answer to a lot of prayers. A multi-center study in several medical centers across the country is now in progress with the answer on efficacy to be released within 2 years.

Thymus, in the form of Immunoplex 402 A or Thymic Fractions 1402A, has no known side effects and can be bought over the counter at health food stores and pharmacies.

For Pharmacies and Physicians

Thymic Fractions 1402 A

Biotherapeutics (1 b.i.d.)
Green Bay, Wisconsin 54305
1-800-553-2370

Health Food Stores

Immunoplex 402 A (1 b.i.d.)
Green Bay, Wisconsin 54305
414-437-1061

Beta Carotene 25,000 u (1 b.i.d.)

Doctors in the Political Arena

Facing Challenges in the 1990 Georgia General Assembly

Cynthia Haney

THE 1991 SESSION of the Georgia General Assembly will mark some of the most critical political changes witnessed in many years under the Gold Dome. We have the first new Governor in 8 years, Zell Miller, a man who has promised to limit himself to one term so that he might shrug off the political pressures of reelection. Georgia's new Lieutenant Governor, Pierre Howard, enters office after having served as chairman of the Senate Human Resources Committee for 12 years — a committee which hears most important health care issues that reach the Georgia Senate. Fifteen of the 56 members of the Senate are freshmen, although many have seen service in the Georgia House; in the House, 38 of the 180 members are new. That's a changeover of one-quarter of the Senate and one-fifth of the House membership. We have a lot of educating to do.

The year 1991 also marks a fresh start for legislation, as it is the first Session of the 2-year term. There are no "carry over" bills from the

MAG has put forward a 5-point plan to address the problem of inadequate policing of the medical profession.

1990 Session, although some of the issues will look familiar to you. A key to your participation in this new political landscape is focusing on these issues that will continue to involve medicine and the delivery of quality health care.

Policing the Medical Profession

Under the leadership of our President, William C. Collins, M.D., MAG has put forward a 5-point proposal to address the problem of inadequate policing of the medical profession. Physicians throughout the state are ready and willing to deal effectively with incompetent or impaired physicians, but are ham-

Ms. Haney is MAG's Assistant to the General Counsel.

strung by a legal and regulatory system which make it almost impossible to do so without suffering significant consequences for their "whistleblowing." The threat of a libel or slander suit from the accused physician makes for a climate of mistrust such that practitioners are reluctant to share their apprehensions about a fellow physician's ability to practice. In addition, the Federal Trade Commission's campaign against health care providers makes us all leery of the charge of illegally restraining trade.

The five points meant to resolve this uncertainty and concern are as follows:

1. **Establish a separate state Medical Board of Examiners for physicians.** At present, the Composite State Board of Medical Examiners has to share attorneys, investigators, and other staff with other state boards, such as the Cosmetology or Used Car Dealers Boards. MAG wants a separate board to work full-time on policing

only the medical profession.

2. **Support a designation of physician licensure fees** (even if an increase in this fee is necessary) to hire investigators trained and responsible for investigating only physicians.

3. **Create a legal bond between the State Board and MAG's Impaired Physicians Program** so that legal immunities from certain kinds of suit presently enjoyed by the state could be extended to MAG's Program.

4. **Assure immunity to peer review groups** in hospitals, medical societies, and specialty societies that report suspected incompetent or impaired physicians, thereby lessening the threat of suit against reporting parties.

5. **Provide for MAG's ability to contract with the state board as an adjunct peer review organization** so that review of physicians *by physicians* can be expanded.

Tort Reform

Despite our many advances in the field of tort reform, there is still much that remains to be done. Why is tort reform so important? Because physicians are operating in a climate of fear and stress . . . stress that is driving them out of practice.

"Well, don't business people live with that same stress of being sued every day?" asked one Georgia legislator, a businessman himself.

"It's different in medicine," replied an Albany physician. "It's a personal and profound attack on your professional judgment and training. A store owner may be concerned that a customer is going to slip on an oil spill in aisle six. A physician knows that one day a patient will walk in the door *looking* for an oil spill, or even a tiny drop of oil."

The most critical problem is faced by obstetricians and family practitioners who deliver babies. An increasing number of ob-gyns now

MAG has proposed an alternative for obstetrical claims: a "special consideration jury" which would be composed of gubernatorially appointed persons who regularly examine and resolve these claims.

provide only gynecologic care, and many family practitioners have stopped delivering babies altogether. Over 95 of Georgia's 159 counties do not have obstetrical care available for pregnant women. The trauma and stress driving physicians away from delivering babies comes from the unfortunate probability that, at some point in their career, the physician will be tossed in to the casino "justice" system this state presently endorses as a way of settling its medical malpractice claims.

MAG has proposed an alternative for obstetrical claims: a "special consideration jury" which would be composed of gubernatorially appointed persons (doctors, lawyers, nurses, and citizens) who regularly examine and resolve these claims. Basing their deliberations on scientific evidence, rather than on well-intended but misguided sympathy for an injured plaintiff, this jury would hear cases in much the manner of an expedited civil case. Money damages, including punitive, would not be limited; however, lawyers would be compensated on an hourly basis, taking their seniority and the complexity of the case into account, rather than on a contingency basis. It isn't difficult to imagine the heat of their opposition to our proposal.

A second element to MAG's tort

reform efforts in 1991 will be a bill calling for expert witnesses in medical malpractice cases to have practiced for 3 of the last 5 years in the specialty in which they profess expertise on the stand. Two elements are at work here: First, the expert witness must be of the same specialty as the physician on trial, so that a general practitioner will not be testifying in a neurosurgery case (as happened not too long ago). Second, the expert witness must have practiced — *treated patients* — for at least 3 of the last 5 years so we do not end up with "professional experts" telling juries how to handle a patient.

Regulatory Proposals

MAG is looking at two 1990 House of Delegates Actions which address the regulation of business practices which are potentially harmful to the health of Georgian consumers. The first calls for the regulation of tanning salons and equipment. Attempted last year, but impeded by the Department of Human Resources, this bill will call for safety requirements such as mandatory goggles, posted warning, and inspection of equipment and facilities. The second of these regulatory proposals goes to the oversight of "quick weight loss" programs. Overweight consumers are particularly vulnerable to the insupportable promises of hucksters preying on a sure dollar, and MAG is committed to bringing an end to this unscrupulous practice.

Certificate of Need

Whenever the state's Certificate of Need (CON) program hits the floor of the General Assembly, political warfare seems inevitable. MAG will not be reluctant, however, to oppose aggressively the predicted introduction of a bill which will call for the extension of the CON law to include privately owned physician outpatient diagnostic and

reatment services. CON is a pat-
ently political process that is inef-
fective in its stated goal of efficient
resource distribution. Despite the
fact that many states have repealed
or reduced the scope of their anti-
quated CON laws, Georgia's Access
to Health Care Commission will be
endorsing its expansion in Georgia,
manipulating the market place ac-
cordingly to shut out physicians.

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formed physicians who says,
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tics"? Hear this! If you are practic-
ing medicine in Georgia, you are

**A second element of
MAG's tort reform
efforts in 1991 will be
a bill calling for expert
witnesses in medical
malpractice cases to
have practiced for 3 of
the last 5 years in the
specialty in which they
profess expertise on
the stand.**

already involved in politics. If you
do not represent the concerns and
needs of your profession to the
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local legislators, who will? The trial
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Contraindication: Known allergy to cephalosporins.

Warnings: CECLOR SHOULD BE ADMINISTERED CAUTIOUSLY TO PENICILLIN-SENSITIVE PATIENTS. PENICILLINS AND CEPHALOSPORINS SHOW PARTIAL CROSS-ALLERGENICITY. POSSIBLE REACTIONS INCLUDE ANAPHYLAXIS.

Administer cautiously to allergic patients.

Pseudomembranous colitis has been reported with virtually all broad-spectrum antibiotics. It must be considered in differential diagnosis of antibiotic-associated diarrhea. Colon flora is altered by broad-spectrum antibiotic treatment, possibly resulting in antibiotic-associated colitis.

Precautions:

- Discontinue Ceclor in the event of allergic reactions to it.
- Prolonged use may result in overgrowth of non-susceptible organisms.
- Positive direct Coombs' tests have been reported during treatment with cephalosporins.
- Ceclor should be administered with caution in the presence of markedly impaired renal function. Although dosage adjustments in moderate to severe renal impairment are usually not required, careful clinical observation and laboratory studies should be made.
- Broad-spectrum antibiotics should be prescribed with caution in individuals with a history of gastrointestinal disease, particularly colitis.
- Safety and effectiveness have not been determined in pregnancy, lactation, and infants less than one month old. Ceclor penetrates mother's milk. Exercise caution in prescribing for these patients.

Adverse Reactions: (percentage of patients)

Therapy-related adverse reactions are uncommon.

Those reported include:

- Hypersensitivity reactions have been reported in about 1.5% of patients and include morbilliform eruptions (1 in 100), Pruritus, urticaria, and positive Coombs' tests each occur in less than 1 in 200 patients. Cases of serum-sickness-like reactions have been reported with the use of Ceclor. These are characterized by findings of erythema multiforme, rashes, and other skin manifestations accompanied by arthritis/arthralgia, with or without fever, and differ from classic serum sickness in that there is infrequently associated lymphadenopathy and proteinuria, no circulating immune complexes, and no evidence to date of sequelae of the reaction. While further investigation is ongoing, serum-sickness-like reactions appear to be due to hypersensitivity and more often occur during or following a second (or subsequent) course of therapy with Ceclor. Such reactions have been reported more frequently in children than in adults with an overall occurrence ranging from 1 in 200 (0.5%) in one focused trial to 2 in 8,346 (0.024%) in overall clinical trials (with an incidence in children in clinical trials of 0.055%) to 1 in 38,000 (0.003%) in spontaneous event reports. Signs and symptoms usually occur a few days after initiation of therapy and subside within a few days after cessation of therapy; occasionally these reactions have resulted in hospitalization, usually of short duration (median hospitalization = two to three days, based on postmarketing surveillance studies). In those requiring hospitalization, the symptoms have ranged from mild to severe at the time of admission with more of the severe reactions occurring in children. Antihistamines and glucocorticoids appear to enhance resolution of the signs and symptoms. No serious sequelae have been reported.

- Stevens-Johnson syndrome, toxic epidermal necrolysis,

and anaphylaxis have been reported rarely. Anaphylaxis may be more common in patients with a history of penicillin allergy.

- Gastrointestinal (mostly diarrhea); 2.5%
- Symptoms of pseudomembranous colitis may appear either during or after antibiotic treatment.
- As with some penicillins and some other cephalosporins, transient hepatitis and cholestatic jaundice have been reported rarely.
- Rarely, reversible hyperactivity, nervousness, insomnia, confusion, hypertension, dizziness, and somnolence have been reported.
- Other: eosinophilia, 2%; genital pruritus or vaginitis, less than 1% and, rarely, thrombocytopenia and reversible interstitial nephritis.

Abnormalities in laboratory results of uncertain etiology.

- Slight elevations in hepatic enzymes.
- Transient lymphocytosis, leukopenia, and, rarely, hemolytic anemia and reversible neutropenia.
- Rare reports of increased prothrombin time with or without clinical bleeding in patients receiving Ceclor and Coumadin concomitantly.
- Abnormal urinalysis; elevations in BUN or serum creatinine.
- Positive direct Coombs' test.
- False-positive tests for urinary glucose with Benedict's or Fehling's solution and Clinistest[®] tablets but not with Tes-Tape[®] (glucose enzymatic test strip, Lilly).

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The Challenge: How to Succeed in the Legislature

James A. Kaufmann, M.D., F.A.C.C.

EVER HEAR THE STORY about the sign posted on the water pipes that were on the side of a street in a small town? The sign said: "Take me back to town boys, the election is over."

That story goes back to the days when politicians promised everything before the election and forgot about the voters immediately afterward. Elections are never really over today. Candidates must start running almost as soon as the last votes are tallied. For us, as physicians, that means we must continue our interest in what is happening in politics.

Keeping a weather eye out for what is happening is interesting for me. When I was 8 years old I fell in love with politics. I well remember sitting glued to the radio engrossed in the strategy of the 1932 national conventions.

I know that politics, like all other professions, has its good people and its bad, but on balance, most of those who run for office do so for idealistic reasons. Each one

Physicians have been trained in the scientific and human approach to all problems and have never been forced to deal with the onslaught of political interference that has increased during the last 25 years.

honestly believes he or she can make the world a better place. I think that gives politicians something very much in common with us because that is why we practice medicine.

Politicians have taught me a great deal over the years. Once, I hesi-

tated to strike up conversations. In short, I suffered from shyness. Politicians, however, overcome any feelings of shyness. They don't hang back in a crowd and wait for others to talk to them: they dive in and start talking to people. That's a valuable lesson for all of us to learn: don't hang back, go up and let others know that you are there.

One of our major problems with government today is that while many of us wait for others to ask our opinions and advice, politicians and bureaucrats are getting deeply involved in medicine. My belief is that physicians should get involved in politics, and politicians should stay out of medicine.

The medical profession is probably more infested with outside political interference than any other group. The reason is the political naivety of most physicians. Physicians have been trained in the scientific and human approach to all problems and have never been

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forced to deal with the onslaught of political interference that has increased during the last 25 years.

We now face the sad fact that only one member of the Georgia General Assembly is a physician, although happily Ann Purcell, a physician's wife, will be joining that august body in January.

On the other hand, lawyers make great politicians and are often advisors and offer assistance even when they are not in office. Not surprisingly, the legal profession has less outside political interference than any occupation in this land. They have political savvy that has been an integral part of their training and work since the inception of the Republic.

They are deeply involved in politics, but they KEEP POLITICIANS OUT OF THEIR PROFESSION. Who are the regulators of the legal profession? Lawyers.

The Georgia Bar Association and ultimately the state Supreme Court regulate lawyers. Who makes up the Supreme Court? Lawyers.

"The legal profession is the only profession in Georgia that has full due process rights in the conduct of its work." That statement was made by Michael Bowers, the current attorney general of the State of Georgia before a large group of physicians.

What shall we do about this situation?

Let's emulate the lawyers — but

only in the political arena.

How do we do that?

Physicians must become politically astute. They and their families should get involved in politics. We may never catch up with the lawyers, but if we do not get involved, the situation will get worse and worse. OUR PATIENTS WILL SUFFER.

Remember to take heed of wise words by John Donne: "No man is an island, entire of itself . . . therefore never send to know for whom the bell tolls; it tolls for thee."

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Chronic Asymptomatic *Chlamydia trachomatis* Colonization of the Fallopian Tubes During the Peripartum Period

Ran Neiger, M.D., Christopher S. Croom, M.D.

Abstract

ANTEPARTUM CERVICAL *Chlamydia trachomatis* infection is associated with an increased risk of peripartum maternal and neonatal morbidity. Chronic chlamydial salpingitis has been described in asymptomatic women. We studied the incidence of asymptomatic chlamydial colonization of the fallopian tubes during pregnancy, and the influence of such infection on the patients' clinical course, by culturing the fallopian tubes of 53 asymptomatic women who underwent tubal ligation in the immediate postpartum period. One patient had a positive chlamydial culture in one of her tubes, and two others had histologic evidence of acute and chronic salpingitis. These patients had no infectious morbidity during the antepartum, intrapartum, or postpartum periods. Our findings suggest that asymptomatic chlamydial colonization and inflammatory processes may exist in the fallopian tubes during the peripartum period.

Introduction

CHlamydia trachomatis (*C. trachomatis*) is the most common cause of sexually transmitted disease.¹ It is one of the organisms responsible for salpingitis and its known sequelae. Chlamydial infection of the fallopian tubes may be asymptomatic and of chronic nature.² Chlamydial infection during pregnancy may lead to perinatal complications, such as preterm rupture of the membranes,³ low birthweight,⁴ prematurity, and increased rate of perinatal mortality.⁵ *C. trachomatis* was isolated from patients with chorioamnionitis⁶ and from 25% of patients with postpartum endometritis.⁷ This in-

fection may also be transmitted to the newborn, causing pneumonia or conjunctivitis.⁸

At the time of this study, Drs. Neiger and Croom were with the Department of Obstetrics and Gynecology, Memorial Medical Center, Inc., in Savannah. Send reprint requests to Dr. Neiger at Division of Maternal Fetal Medicine, Women and Infants' Hospital, 101 Dudley St., Providence, RI 02905-2401.

Studying the association between peripartum chlamydial infection and perinatal morbidity, most authors examined the presence of chlamydia in the endocervical canal^{3, 5, 9} or in samples of the endometrium.^{7, 10} The purpose of our study was to search for a chronic chlamydial colonization of the fallopian tubes during pregnancy as a potential reservoir for this pathogen, and to examine the clinical significance of such "silent" infection on the outcome of the pregnancy and the postpartum course.

Materials and Methods

Our study population consisted of asymptomatic patients who

underwent tubal ligation in the immediate postpartum period. At the time of surgery, we obtained a chlamydia culture by inserting a dacron swab through each of the freshly resected tubal segments. The swabs were immersed in chlamydia transport medium. This medium contained MEM, Fetal bovine serum, sucrose, NaHCO₃, HEPES, Gentamicin, Streptomycin, Amphotericin B, and three glass beads. Within 24 hours these test tubes were sent in cold storage to Roche Laboratory, where the specimens were placed in McCoy shell vials and centrifuged for 1 hour at 2700 RPMs. The chlamydial overlay media were then incubated for 48 hours, and the cultures were read after they were stained using fluorescent antibodies.

In order to verify the reliability of our culturing method, we formed a second group of similar, postpartum women whom we cultured during tubal ligation surgery in a similar manner. In this group, we also sent a short segment of each tube to be cultured separately for chlamydia.

The fallopian tube segments from both groups were examined by a pathologist for identification of the specimen and for signs of inflammatory process.

Results

Our study population included 53 patients. The majority of these patients were unmarried and supported by federal funds. By history obtained upon admission to the Labor and Delivery unit, many admitted to early age of first intercourse, multiple sexual partners, and alcohol and drug abuse. Twelve patients had documented previous infections with a sexually transmitted disease: three had gonorrhea, one had syphilis, one had cervical chlamydia, one had genital herpes, two had condyloma acuminata, and two were tested positive for HIV. One patient had a history of pelvic in-

flammatory disease, and one patient had Hepatitis B during her pregnancy.

We divided the patients into two groups. The first group included 33 patients who underwent vaginal delivery 10 to 58 hours prior to the surgery (average 27 hours). Twenty-seven were black, and six were white. Their mean age was 26.7 years (18-36), mean gravidity was 3.8 (2-8), and mean parity was 3.4 (2-7). Twenty-nine patients had prenatal care at various clinics, and four had no prenatal care. Fourteen

The negative results of the direct fluorescent monoclonal antibody studies may be explained by the high false-negative rate of this test.

patients had a direct fluorescent monoclonal antibody (DFA) test for cervical chlamydia during their pregnancy, and all tests were negative. In this group there were 28 term deliveries and 5 premature deliveries. Four patients presented with premature rupture of membranes.

One of the 33 women in this group had a positive chlamydia culture taken from the right tube. The culture from the left tube had no growth. This multiparous patient reported no previous history of chlamydia infection, pelvic inflammatory disease, or other sexually transmitted disease. Although she had premature rupture of the membranes and delivered at 36½ weeks gestation, she was asymptomatic before and after the surgery and had a benign postoperative course. On pathologic examination of this patient's tubes, she had normal fal-

lopian tubes bilaterally, as did 3 other patients in this group.

Of the other two patients in the group, one patient with a normal left tube had histologic findings of considerable chronic inflammation in the right tube. The other patient had a normal right tube and evidence of acute and chronic salpingitis in the left. Both patients were asymptomatic pre- and postoperatively and were discharged from the hospital on the day following the surgery. They both did well and had no morbidity when seen 1 week later for follow-up exam.

Thirty-two patients, including the one with the positive chlamydial culture, had a benign postpartum course and were discharged on the day following their surgery. One patient who developed mild endometritis and urinary tract infection required antibiotic treatment for 3 days. Another patient was readmitted 3 days after her surgery due to acute pelvic inflammation.

The second group included 20 patients. Ten were black, nine were white, and one was oriental. The mean age was 25.5 (19-34), mean gravidity was 3.3 (2-6), and mean parity was 3 (2-6). One patient had no prenatal care, and the others were followed in prenatal clinic. Six patients had antenatal DFA tests for cervical chlamydia, and all tests were negative. Five patients presented with premature rupture of membranes, and two delivered prematurely. All patients had a benign postpartum course, and underwent tubal ligation 5-63 hours later (average 30.8 hours). They were all discharged from the hospital on the first postoperative day.

On pathological examination of the fallopian tube segments from this group, one patient with positive serum HIV, RPR, and FTA tests, and a positive cervical culture for gonorrhea, had evidence of microcavitation in the fallopian tube stroma. The other 19 patients in the

group had normal pathologic findings. None of these 20 women had positive chlamydial culture, either by the endotubal swab method, or by the tissue culture.

Discussion

C. trachomatis has been recognized as one of the most prevalent genital pathogens in pregnant women.¹ The maternal morbidity associated with chlamydial infection during pregnancy has been studied extensively. According to several studies, women who harbor this pathogen in their endocervix prenatally have a significantly shorter mean duration of pregnancy.^{3, 11} Stillbirth and neonatal death occurred 10 times more often among women who were infected with chlamydia than among uninfected controls.⁵ Antepartum *C. trachomatis* infection was associated with an increased risk of intrapartum fever and late postpartum endometritis.^{7, 9} Not all studies, however, found an association between symptomatic cervical chlamydial infection during pregnancy and increased morbidity. In a study of patients with positive cervical chlamydial cultures, results did not reveal any significant difference in the rates of low birthweight, abortion, stillbirth, prematurity or premature rupture of membranes.¹² However, *C. trachomatis*-infected women who were also IgM seropositive had a higher rate of low birthweight infants and a greater incidence of premature rupture of the membranes than did either IgM negative, *C. trachomatis*-infected women, or those with negative chlamydial cultures.

Our study population exhibits the common characteristics of women who most often have chlamydia cervicitis.^{5, 9} It is likely that many of these women were exposed and possibly infected with *C. trachomatis* during their pregnancy. The negative results of the direct fluorescent monoclonal antibody

studies may be explained by the high false-negative rate of this test. The accuracy of this test depends on many factors, including adequate cleansing of the endocervix, correct collection of the specimen, and careful assessment by an experienced interpreter. In our clinic, cervical DFA tests are collected by interns from various services, junior medical students, and by nursing students, and the yield of positive results is low. We did not obtain serologic studies to confirm exposure of our patients to chlamydia, since we felt that performing these expensive serologic tests would not be cost effective. Many studies show that positive serology is common and is not diagnostic of active infection. In one study of parous women seeking sterilization, 47.5% patients were found to have species-specific antibodies to *C. trachomatis*, as were 46% of women admitted for termination of their pregnancies.¹³ In another study, 58% of women with normal second trimester intrauterine pregnancies had detectable antichlamydia IgG antibodies, and 12% had IgM antibodies.¹⁴

The ascending route of cervical chlamydial infection and the role of this pathogen in acute and chronic salpingitis have been previously described.^{15, 16} It is unlikely, though, that cervical chlamydia ascends to the upper genital tract during late pregnancy. The presence of this pathogen in the fallopian tubes shortly after delivery probably suggests a chronic, asymptomatic colonization. The presence of a "silent" infection and/or an inflammatory process has been demonstrated in non-pregnant women. Unsuspected chronic pelvic inflammatory disease was found in asymptomatic infertile women.^{2, 17} Histologic studies confirmed the presence of ongoing, low-grade salpingitis, or post-inflammatory endosalpingeal disorganization, in

fallopian tubes that grossly appeared normal during previous laparoscopic examinations.¹⁸ In a study in which pathologists evaluated fallopian tube segments obtained from asymptomatic patients undergoing tubal ligation following term deliveries, they found chronic inflammatory disease in 9% of these women.¹⁹ In a recent study, *C. trachomatis* was cultured from two of 20 women who underwent tubal ligation in the immediate postpartum period, representing 10% culture positivity.²⁰

Our findings support the previous reports of asymptomatic inflammation and an ongoing chlamydial infection in the fallopian tubes. The incidence of peripartum chlamydial colonization of the fallopian tubes in our study population appears to be lower than originally reported. This "silent" infection was not associated with infectious morbidity in the antepartum, intrapartum, or postpartum periods.

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Action: Yohimbine blocks presynaptic alpha-2 adrenergic receptors. Its action on peripheral blood vessels resembles that of reserpine, though it is weaker and of short duration. Yohimbine's peripheral autonomic nervous system effect is to increase parasympathetic (cholinergic) and decrease sympathetic (adrenergic) activity. It is to be noted that in male sexual performance, erection is linked to cholinergic activity and to alpha-2 adrenergic blockade which may theoretically result in increased penile inflow, decreased penile outflow or both.

Yohimbine exerts a stimulating action on the mood and may increase anxiety. Such actions have not been adequately studied or related to dosage although they appear to require high doses of the drug. Yohimbine has a mild anti-diuretic action, probably via stimulation of hypothalamic centers and release of posterior pituitary hormone.

Reportedly, Yohimbine exerts no significant influence on cardiac stimulation and other effects mediated by B-adrenergic receptors, its effect on blood pressure, if any, would be to lower it; however no adequate studies are at hand to quantitate this effect in terms of Yohimbine dosage.

Indications: Yocon[®] is indicated as a sympatholytic and mydriatic. It may have activity as an aphrodisiac.

Contraindications: Renal diseases, and patient's sensitive to the drug. In view of the limited and inadequate information at hand, no precise tabulation can be offered of additional contraindications.

Warning: Generally, this drug is not proposed for use in females and certainly must not be used during pregnancy. Neither is this drug proposed for use in pediatric, geriatric or cardio-renal patients with gastric or duodenal ulcer history. Nor should it be used in conjunction with mood-modifying drugs such as antidepressants, or in psychiatric patients in general.

Adverse Reactions: Yohimbine readily penetrates the (CNS) and produces a complex pattern of responses in lower doses than required to produce peripheral a-adrenergic blockade. These include, anti-diuresis, a general picture of central excitation including elevation of blood pressure and heart rate, increased motor activity, irritability and tremor. Sweating, nausea and vomiting are common after parenteral administration of the drug.^{1,2} Also dizziness, headache, skin flushing reported when used orally.^{1,3}

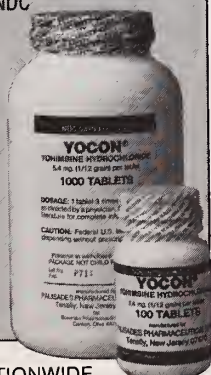
Dosage and Administration: Experimental dosage reported in treatment of erectile impotence.^{1,3,4} 1 tablet (5.4 mg) 3 times a day, to adult males taken orally. Occasional side effects reported with this dosage are nausea, dizziness or nervousness. In the event of side effects dosage to be reduced to 1/2 tablet 3 times a day, followed by gradual increases to 1 tablet 3 times a day. Reported therapy not more than 10 weeks.³

How Supplied: Oral tablets of Yocon[®] 1/12 gr. 5.4 mg in bottles of 100's NDC 53159-001-01 and 1000's NDC 53159-001-10.

References:

1. A. Morales et al., New England Journal of Medicine: 1221. November 12, 1981.
2. Goodman, Gilman — The Pharmacological basis of Therapeutics 6th ed., p. 176-188. McMillan December Rev. 1/85.
3. Weekly Urological Clinical letter, 27:2, July 4, 1983.
4. A. Morales et al., The Journal of Urology 128: 45-47, 1982.

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The Compleat Speller (and Grammarian) *or "This is she," but "That is him."*

H. Eugene Brown, M.D.



For the last 20 years, regular patrons of the Stein Club, joined by visitors from neighboring towns and states, have forgone their games of chess and bridge to vie for prizes and prestige in a variant of that peculiarly American contest, the spelling bee. Shown here (L-R) are Ed Martin, a lawyer from Decatur, who won the January 1990 meet; Patty Wallace, a 2-time winner; and Dyna Kohler. These women serve with the author on the committee that plans the Atlanta Open Orthographic Meet.

Introductory Comment

MY FIRST knowledge of the Atlanta Open Orthographic Contest occurred, when after a protracted committee meeting of MAG, another member and I went to the Stein Club across the street for continued discussion. One is struck by the ordinariness of this institution until the chess boards are spotted in the side room and the walls are

examined, covered with "objets d'art," primarily photographs, from the world of anything.

The thing that caught my eye was a small plaque with a few names on it entitled "The Atlanta Open Or-

thographic Contest" and adjacent to it a clipping from a Philadelphia paper indicating that a Ms. Brown had won the Atlanta Orthographic Contest. My curiosity piqued, I then inquired and learned that it was held the last Friday (now Saturday) in January and was a no-contestants-barred competition (if you could squeeze in).

After I had spent a couple of years of trying but not winning, the contest took a different turn. Eugene Brown entered one year and won then won two more to become the only three-time consecutive never having-lost winner. He then graciously retired from competition and became the guiding light of this delightful event.

At my insistence, and that of Charles Underwood, Gene has written the following article, a mere peek into both the contest and the very talented man.

Dr. Brown is a retired internist who now works for Social Security evaluating disability claims. He is the only 3-time winner of the Atlanta Open Orthographic Meet. His address is 622 Park Lane, Decatur, GA 30033.

JOHN P. WILSON, M.D., Atlanta
General Surgeon

The three “sudden death” words in the last round were *epididymis*, *scissile*, and *ouros*.

AN EVENT which is becoming a popular tradition* is The Atlanta Open Orthographic Meet, sponsored by the Stein Club in Midtown, and now held on the last Saturday in January. For the last 20 years, the club's regular patrons, joined by visitors from neighboring towns and states, have forgone their games of chess and bridge to vie for prizes and prestige in a variant of that peculiarly American contest, the spelling bee.

We want to say at the outset that we do not approve of making a fetish of spelling (or grammar or pronunciation). After all, one can be elected to the second highest office in the land without knowing how to spell “beacon” (in all fairness it must be said that it might have been his wife — an attorney — who was responsible for those 50,000 famous Christmas cards). And the twentieth president of our country said that he felt sorry for anyone who knew only one way to spell a word. We acknowledge that ideas are more important than words. However, words are usually necessary for the communication of ideas, and chaos and ambiguity (and perhaps even trouble with lawyers) would result if there were no standards of correct spelling and usage of words. We should all learn to see (and note) what we look at, and should decide with good judgment (“judgement” if we are British) when to use rapid reading

I still chuckle when I think of a special meeting of an organization of which I was a member at Emory, called for the purpose of establishing some traditions for the university.



The Stein Club in Midtown Atlanta is the site of the Atlanta Open Orthographic Meet. By the end of the evening, many patrons have a richer vocabulary than they had at the beginning and are more confident about pronunciation of useful words.

techniques and when not.**

Knowing how to spell should be

**I chuckle also when I recall seeing a colleague on the elevator at Grady Hospital who (not whom), I knew, was teaching classes in “dynamic reading.” I asked him if he could use the technique in reading poetry, mathematics and medical journals, where missing a “not” or a decimal point might lead to erroneous conclusions. He said, “Sure. The other night my wife and I were going to see *Midsummer Night's Dream* at Emory. I got ready 10 minutes before she did, and I read the whole play.” I saw the play, too. It was *As You Like It*.”

a by-product of having an extensive and useful vocabulary. When I realized I was studying for this event (by reading in an unabridged dictionary all the entries beginning with “aa,” “ct,” “dh,” “kh,” “mn,” “pt,” “sf,” “ts”), I withdrew from competition and volunteered to serve on the committee which selects the words and grades the papers.

But back to the ground rules and procedures of the orthographic meet. Unlike the event with which most of us became familiar in grade and high school in which participants were given different words to spell orally, the local contestants must spell the same words, thus eliminating the element of chance. In order to facilitate grading, the 50 words are called out in four rounds of 20, 15, 10, and 5 words of increasing difficulty. The words must be printed, and no erasures are allowed. Changes may be made by drawing through a word and printing it again. At the end of the first round, a committee member calls out the correct spelling. The papers of those who spelled all correctly are taken up and checked by the committee. If fewer than 20 people got all correct, those with only one error are taken up also. At least 20 participants pass on to the second round. From here on the committee grades the papers. At least 10 people pass on to the third round, and five to the fourth. A cumulative score is kept, and prizes (which may be \$50 bills, engraved pewter mugs, pen and pencil sets, or cases of beer) are awarded by the Stein Club to the top three. In the event of a tie an extra round is added. This year the winner was an attorney, who spelled 45 words correctly. Two women, both previous winners, tied for second place. The three "sudden death" words for them were: epididymis, scissile, and kouros. One spelled two correctly, the other, one. Winning scores in the past have ranged from 42 to 46.

Of the 17 winners in the past 20 years, four have been computer experts; two, journalists; two, lawyers; three, women each with master's degrees in English literature, anthropology, and history (severally). The 1978 winner, a woman from New Hampshire, had a Bachelor's degree in chemistry and a Master's in fine arts. The first winner was a court reporter. One woman did not go to college, but

has been both a legal and a medical secretary, is very knowledgeable about computers, and is an accomplished ballroom dancer. She has come in second and third several times.

Contrary to what one might infer from reading the words in the last round, the committee (now three past winners) does not pore over unabridged dictionaries to find words likely to stump the spellers. It tries to present a "mix" of words that will reward the omnivorous reader who keeps a dictionary at his side. From the beginning it has been the policy not to use the same words again in later years. However, before we became "computerized," a few words probably were inadvertently repeated. Thus, in 20 years about 1000 words have been used. It has become increasingly difficult to select words for the first round which are not too hard. Such words of high school difficulty as *embarrass*, *accommodate*, *stationery*, *supersede*, and *abscess* were long ago used up. We usually manage to include several words (*plagiarize*, *philander*, *arbitrage*, *lieutenant-colonel*) which have recently been in the news. A wide range of professional and avocational pursuits has been represented. For example: Medicine: *anastomosis*, *cicatrix*, *diphtheria*, *dyslexia*; Law: *bankruptcy*, *arbitrage*, *venire*, *puisne* (I missed it), *aleatory* (also a musical term); Art: *chiaroscuro*, *sfumato*, *quattrocento*; Music: *vivace*, *obbligato*, *fermata*, *glockenspiel*, *arpeggio*; Mathematics, Astronomy and Engineering: *azimuth*, *syzygy*, *asymptote*, *entropy*; Theology: *celebret*, *eschatology*, *hagiology*, *minimifidian*; Philosophy: *epistemology*, *casuistry*, *sylogism*, *solipsism*, *heuristic*; Culinary arts: *couscous*, *bouillon*, *bouillabaise*, *broccoli*.

Contestants are told that they need not agonize over hyphens, diacritical marks, or whether an item is one or two words (*cock-a-*

doodle-doo, *heebie-jeebies*), *gobledook* or capitalized (*Machivellian*, *bechamel*).

The committee does not consider that its relationship to the contestants is an adversarial one. It hopes that at the end of the evening, Stein Club patrons will have a richer vocabulary than they had at the beginning and will not be as unsure about pronunciation of useful words. (Why do so many physicians pronounce "flaccid" as if it had two "s's"? Do they think it is different from "occipital," "vaccinate," "eccentric," "accept" and "accelerate"? And why do some still use "temperature" when they mean "fever"? A chunk of ice has a temperature.) But I digress from my digression.

As an illustration of the benevolence of the committee, they sometimes give spelling hints (before the event starts). Often, thinking of a related word will help in a spelling dilemma. Thus, "mandate" helps with "mandatory," "err" with "aberrant," "allegation" with "allege," "botanical" with "botany." I have seen "boteny." But beware of "spleen" and "splenic," "tonsil" and "tonsillitis" and "-ectomy," "tendon" and "tendinitis," "explain" and "explanation," "maintain" and "maintenance." For those who remember some Latin, knowing whether the infinitive of the Latin root ends in "-are" or "-ere" will help with words ending in "-ant," "-ent," "-ance," and "-ence." There are only four common English words which end in "-efy." They are "liquefy," "putrefy," "rarefy," and "stupefy."

Permit me to indulge in one last diatribe on usage before we wind up the matter of orthography. There must be millions of secretaries (and their bosses) who say on the telephone, "This is she (he)," and a few minutes later, "That's him." Does the correct pronunciation sound funny or stilted? It doesn't to me; that's what you heard at home. And

won't to our children if we speak correctly. And we should ask the patient to *lie* on the table, not *lay*. The reason is because "is redundant. Use "that." But don't use "that" again in a second clause, when you have already used it ("he said *that*, I'll take my medicine and avoid salt, and my blood pressure would come down").

Careful speakers and writers almost never begin a sentence with "hopefully." "Hopefully the plane will arrive on time." Planes don't hope. A few authorities (e.g., William Safire) have given up on this. I side with *The American Heritage Dictionary*, Edwin Newman, and Merriam-Webster. Even when there is a sentient being in the sentence who can hope, "hopefully" should seldom be used, as in "hopefully, our team will win." It is correct to say, "I am going to New York, hopefully to get the job." We do not have a word implying hope, as we do for regret in "regrettably."

Our opponents in this matter who know a little German, sometimes cite the frequent use by Germans of "hoffentlich." But this *does* mean, "it is to be hoped," and it is "hoffungsvoll," which Germans (and Austrians and some Swiss) use as an adjective and do not abuse. They do not have the comparable adverb, since they do not need it, and seldom do we.

The matter is hardly worth all this time and space (and it is more important for a physician to be able to set a fracture, deliver a baby, or detect early congestive heart failure), but to many people it is an interesting and instructive nicety. For your secretary's sake, if for no other reason, avoid "at this point in time" when "now" would suffice. One hopes that "at this point in time" will never supplant plain old "here."

In my post-retirement job, evaluating claims of disability for Social Security, I read many histories in which the physician writes that something began on Wednesday or

some other day of the week. The actual date, or the number of days ago, would be so much more informative.

"The rhythm is normal" is more precise than "the rhythm is regular." Wenckebach periods, bigeminal rhythm (and other abnormal rhythms) may be regular but not normal.

Do not use "verbal" as equivalent to "oral." Any form of communication which uses words, spoken or written, is verbal.

Here are the words used last January 27 (Mozart's birthday).

Round One: democratization, beacon, arbitrage, chancellery, raiment, prosody, lizard, gizzard, machete, tassel, alacrity, effrontery, sherbet, resuscitate, integrated, umbrage, overrule, counterfeit, grimaldin, bourgeoisie.

Round Two: sphygmomanometer, anadromous, cerulean, cockatrice, majolica, cybernetics, dulocracy, debridement, xylem, epigone, farago, nunciature, virago, belletrist, sortilege.

Round Three: popliteal, quattrocento, ullage, vicinal, quodlibet, ciccone, fermata, momus, aleatory, assuetude.

Round Four: boustrophedon, usquebaugh, arriccio, assumpsit, genial (the three syllable one, with accent on the second, meaning "pertaining to the chin").

I would not condemn anyone, even to Dante's first circle of inferno, who missed all in Round Four. If we did not use such outlandish words in the last round, we would be adding extra innings to resolve ties until long into the night.

Addendum

By John P. Wilson, MD

The spelling, the meaning, and the use of words are closely related and all are necessary for proper communication. It is difficult, then,

to separate spelling, word usage, definition, etymology, and origins and derivations of languages. Every "word person" has some favorite books to which he refers, most specifically for spelling, meaning, and word usage. I would like to list a few of mine.

For the art of spelling: Modern American Spelling, by Kottmeyer and Claus, published by Webster-McGraw-Hill is my "best spelling book." It includes all the basic principles from elementary to the sophisticated, includes all the tricks, and is highly readable (but it does misspell "millennium") (although "millenary" has only one "n").

For the poor speller: The Misspeller's Dictionary by Peter and Craig Norback, published by Times Books lists nothing but the words and how they are spelled, no definitions, but the incorrect spellings are placed in alphabetical order along with the correct spelling, making it easy to find what you are really looking for but can't spell.

Dictionaries: Dictionaries come in all sizes and shapes. The standard reference is the (Unabridged) Oxford English Dictionary. Extremely detailed, very expensive in the standard printing, but available in inexpensive compact version, it is a bit hard to read and basically for the word enthusiast. I use it primarily for an occasional article called The Lexicographer's Corner. The basic dictionary in most libraries is the Merriam Webster Dictionary (New Unabridged). The second edition has been replaced by the third edition, but I prefer the second. The American Heritage Dictionary of English Language, as noted elsewhere, is particularly useful in determining precision of word usage. The Merriam Webster Collegiate (Eighth Edition) is probably the most widely used dictionary. It is comprehensive enough to contain almost any word you would like to find, and small enough that you can have one in every room in the house.

(A note on the differences in dictionaries. As Dr. Brown has observed in his article, the difference in "verbal" and "oral" can be significant. In The American Heritage Dictionary, this difference is noted specifically. In The Merriam Webster Collegiate Dictionary, the third definition of "verbal" is "spoken, rather than written," and in the Oxford English Dictionary "... conveyed by speech instead of writing; conveyed by word of mouth; oral." — All of which is why word usage is so much fun.

Here are a few books which I find

either informative, entertaining, or both: The New York Times Everyday Reader's Dictionary of Misunderstood, Misused, and Mispronounced Words by Laurence Urdang, published by Quadrangle, and Mrs. Byrnes' Dictionary by Josef H. Byrnes, published by University Books.

For usage, I find Harper's Dictionary of Contemporary Usage, by William and Mary Morris, and American Heritage Dictionary of English Language helpful.

For word and phrase origins, The Dictionary of Word and Phrase

Origins (three volumes), by William and Mary Morris, published by Harper and Rowe; and The Brown's Dictionary and The Second Brown's Dictionary by John Brown, as well as the old standard Brewer's Dictionary of Phrase and Fable.

For fun reading: On Language, by William Safire, published by Times Books. (You may disagree with him but he is lots of fun to read.) Strictly Speaking and A Civil Tongue, both by Edward Newman. In Praise of English by Joseph T. Shipley, published by Times Books, and Light Refractions by Tom Middleton.

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MAG's Seventh Annual

LEADERSHIP CONFERENCE: THE FUTURE IN OUR HANDS

February 2-3, 1991

Ritz-Carlton Buckhead Hotel
Atlanta

William C. Collins, M.D.

EACH YEAR, for all our members — but especially for those Georgia physicians holding positions of leadership in MAG, their county medical societies, specialty societies or hospitals — the Medical Association of Georgia sponsors our MAG Leadership Conference, a major update on all the latest-making trends in medical legislation and socioeconomics. It's an important meeting — full of information, pressing topics, and stellar speakers. This year our MAG Leadership Conference will be held February 2-3 (Saturday and Sunday), in Atlanta at the Ritz-Carlton Buckhead Hotel.

This year, we attempt to look at the "big picture" — what lies ahead for all of us in American medicine. Our focus, of course, is on the future. We hope to lead off our morning session, "Defining the Future," with the preeminent leader of the state, newly elected Governor Zell Miller. We have invited the Governor to announce his goals for Georgia's health care delivery system during the Miller administration. Following will be the President of the American Medical Association, John C. Tupper, describing how

the AMA's much publicized "Health Access America Plan" seeks to address the nation's problems of increasing access while containing costs. Pulitzer Prize winner Paul Starr of Princeton will tell us how physicians can maintain at least a share of our profession's traditional autonomy in the new era of business and government control — the age which he calls "the coming of the corporation."

After defining the future for medicine in the morning, our afternoon session will present some of the cutting-edge ideas being presented around the country as to how physicians may influence events. We have invited our newly elected Lieutenant Governor, the Honorable Pierre Howard, to address us on why we must seize every opportunity to influence discussion for the best interests of our patients. In a point-counterpoint designed to offer both "liberal" and "conservative" viewpoints, Dr. Nick Davies of Atlanta will face Dr. John Goodman of Dallas, offering "Two Visions of an Ideal American Health Care System." Dr. Ralph Crawshaw, of Portland, Oregon, will explain the premises of the controversial "Oregon Plan,"

whereby his state's citizenry have essentially prioritized whose medical care should be publicly funded, and whose should not. Finally, to show how the Medical Association of Georgia hopes to influence the delivery of medical care in our State, Dr. Robert A. Burns of Dalton will announce MAG's new proposal for action, "Health Access Georgia."

On Sunday morning, we will offer two top-flight optional workshops, free of charge to all Leadership Conference registrants: "Your Practice as Small Business," sponsored by MAG Mutual; and "Medicare Problems in Georgia," moderated by our Past President, Dr. Joe Bailey.

Our complete Conference Program is presented here, along with your Leadership Conference registration form. If you haven't registered yet, we invite you to examine our program and then join us at the meeting.

Doctors, the future is in our hands *now*. Let's reach out and shape it.

Registration for the Meeting

To register for the 1991 MAG Leadership Conference and op-

tional workshops, please complete the registration form inserted in the *Journal*, detach it from the hotel reservation form, and mail it with your registration fee to the MAG.

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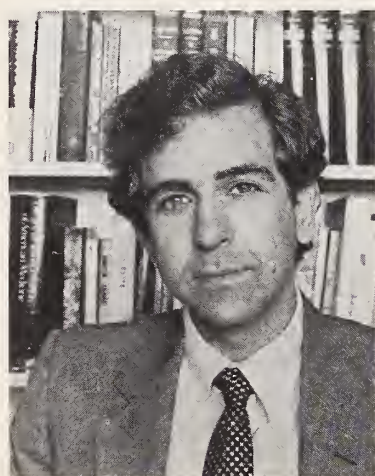
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both singles and doubles is \$110. To make your reservations at the Ritz Buckhead, you may use the de-

tachable lower portion of our Leadership Conference registration form and mail it directly to the Hotel.

FACULTY HIGHLIGHTS — MAG'S 1991 LEADERSHIP CONFERENCE



DR. PAUL STARR

"Maintaining Physician Autonomy in the Coming of the Corporation"

"As large corporations have risen to dominate economic life in the 20th century, medicine has been the heroic exception that sustained the waning tradition of independent professionalism. Emerging developments now jeopardize the profession's control of markets, organizations and standards of judgment. The rise of a corporate ethos in medical care is a significant consequence of the changing structure of medical care. It permeates voluntary hospitals, government agencies, and academic thought as well as profit-making medical care organizations. The organizational culture of medicine used to be dominated by the ideals of professionalism and voluntarism, which softened the underlying acquisitive activity. The restraint exercised by those ideals now grows weaker. The 'health center' of one era is the 'profit center' of the next.

"This turn of events is the fruit of history of accommodating professional and institutional interests, failing to exercise public control over public programs, then adopting piecemeal regulation to control the inflationary consequences, and, as a final resort, cutting back programs and turning them back to the private sector. The failure to rationalize medical services under public control meant that sooner or later they would be rationalized under private control. Instead of public regulation, there will be private regulation, and instead of public planning, there will be corporate planning. Instead of public financing for prepaid plans that might be managed by the subscribers' chosen representatives, there will be corporate financing for private plans controlled by conglomerates whose interests will be determined by the rate of return on investments. That is the future toward which American medicine now seems to be headed. But a trend is not necessarily fate. Images of the future are usually only caricatures of the present. Perhaps this picture of the future of medical care will also prove to be a caricature. Whether it does depends on choices that Americans have still to make."



DR. JOHN C. TUPPER

“Reform, Not Revolution: the AMA’s ‘Health Access America’ Plan”

“After several decades of scientific and technological advances, the United States has become the premier nation in providing high quality, comprehensive medical care and education. No health care system in the world can match the high caliber of medicine practiced throughout this country, nor the widespread availability of medical procedures and technology now considered common in the U.S.

“However, the outstanding level of care found in our system has not provided solutions to serious problems that leave millions of Americans without health insurance coverage. And rising costs trouble many Americans. Public opinion polls show that Americans favor a system of employer-provided health care insurance that would slow rising costs, improve access for the poor and elderly, and remove the bureaucratic paperwork that serves only to complicate and stretch the resources of the system. Clearly, our health care system needs substantive revision to provide access to every American, but it would be counterproductive to ‘fix’ aspects of the system that work well. After an extensive review of the strengths and weaknesses of the American system, the AMA has developed a 16-point proposal to expand access to health care coverage to all Americans, while controlling inappropriate cost increases, and reducing paperwork and bureaucracy. Strengthening the American health care system through the elements contained in this proposal will present an enormous challenge to all concerned. For its part, the AMA intends to move forward vigorously on legislative and other fronts, as well as encouraging every interested party to join in the dialogue toward this goal. Our common objective will continue to be providing high quality care at reasonable cost, and access for every American.”



DR. JOHN C. GOODMAN

“Toward An Ideal Health Care System: Solving Problems Through Market-Based Institutions”

“The secret of the American success story is that for most of our history, in most sectors of our economy, we have created an institutional environment in which the pursuit of individual self-interest promotes the well-being of all of us. That is not true in the health care sector. But it can be. The market for medical care will never resemble the market for corn or wheat. Yet there is no reason why health care problems cannot be solved through market-based institutions. In such a system, decisions would be made by individuals rather than large institutions. Supply and demand and competitive forces would allocate resources. But the destiny of our health care system would be determined by consumer preference and individual choice.

“Our proposals will not immediately solve all of America’s health care problems. These problems will empower individuals, however, and they will create market institutions through which problems eventually will be solved by individuals’ pursuing their own self-interest. They give individuals incentives to solve problems which can never be solved through bureaucracies, regulations or the power of government. The enactment of these proposals would constitute a national commitment to avoid the path traveled by other developed countries and follow a path which is distinctly American in character — one which relies on individual choice and the efficiency of free markets.”



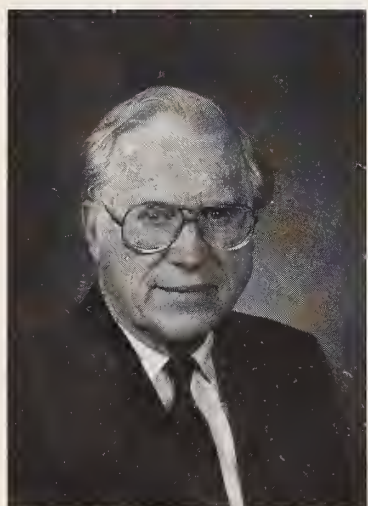
DR. NICHOLAS E. DAVIES

"Toward An Ideal Health Care System: Developing a National Health Policy"

"We believe that the American health care system, especially its costs, is out of control. We believe that, if our system is to survive, costs must be lowered so that they do not consume more than the current approximately 11% of the gross national product.

"What must our nation do? The answer seems simple enough. We must reduce the cost of our health care system while maintaining the highest quality of care that is possible. We must set national priorities. In short, we must ration health care, starting with the simplest, most easily accomplished methods. In time, reasonable national standards or guidelines for quality care will be agreed upon. Certainly, setting national standards and priorities should lead to a more rational allocation of our nation's resources.

"Bold action is needed to right the wrongs and equalize the inequities that have been built into our health care system during the last 40 years. We believe that significant health care rationing is inevitable in the future and that it must not be based simply on the ability to pay. We believe that rationing must be instituted following open discussion with all concerned, instituted gracefully, if that is possible, after careful planning. Quick fixes, patchwork reforms, and short-term solutions must not be tolerated by the American people."



DR. RALPH CRAWSHAW

"The Oregon Plan: Reaching Consensus, Not Rationing Care"

"Is it right for hospitals to offer luxury rooms and gourmet meals for some patients while 37 million other Americans lack adequate health insurance? Should money from community health programs be diverted to provide expanded medical services for AIDS patients? Are old people entitled to organ transplants?

"In a democratic society, value-laden decisions like these should be made by the people or by their elected representatives. Yet, with the notable exception of abortion, Americans generally have had little to say about such issues. Large social issues are rarely framed in a way that invites public discussion. Most citizens lack the information or forum to grapple with these questions, much less to help decide them.

"Yet citizens can get involved constructively. Groups in Oregon and several other states have begun discussing as a community many of the tough decisions that burgeoning medical technology has forced upon us. In some cases, they have affected official policy.

"For example, Oregon Health Decisions, a citizen-based organization, held 300 meetings across our state for citizens to talk with other citizens about such issues as death with dignity and equitable access to health care.

"One result has been that Oregon has adopted some explicit policies about where it will spend its resources; prenatal care, for example, comes before organ transplants. Some critics have attacked this approach as 'health rationing' and called it a dangerous departure from the concept that society should try to provide optimal health care for everyone.

"However, I think this new movement is welcome. Choices do exist, even if we prefer to pretend otherwise. We need to confront these decisions squarely."

LEADERSHIP CONFERENCE PROGRAM

The Future in Our Hands

Morning Session: Defining the Future

8:00-9:10
Welcome—Dr. Collins

9:00-9:15
Introduction of the Governor

9:15-9:45
My Goals for Georgia's Health Care in the 90's"
The Honorable Zell Miller,
Governor of Georgia
Invited Guest Speaker

9:45-10:00
Questions and Discussion

10:00-10:10
Response of the Medical Association of Georgia
Dr. Collins

10:10-10:35
Maintaining Physician Autonomy
"The Coming of the Corporation"
Paul Starr, Ph.D.
Princeton University
Author of *The Social Transformation of American Medicine*

10:35-10:55
Questions and Discussion

10:55-11:15
Break — coffee and soft drinks

11:15-11:40
Reform, Not Revolution:
The AMA's Prescription for American Health Care
John C. Tupper, M.D., President
American Medical Association

11:40-12:00
Questions and Discussion

12:00-1:30
Lunch on Your Own

Afternoon Session: Our Profession's Response

1:30-1:40
Introduction to Afternoon Session: Working Toward an Ideal Health Care System
Dr. Collins

1:40-2:05
Point — Counterpoint
Two Visions of an Ideal American Health Care System
Nicholas E. Davies, M.D.,
President-Elect
American College of Physicians
Atlanta

2:05-2:25
John C. Goodman, Ph.D.
President
National Center for Policy Analysis
Dallas

2:25-2:45
Questions and Discussion

2:45-3:05
Break — coffee and soft drinks

3:05-3:30
The Oregon Plan: Reaching Consensus, Not Rationing Care
Ralph Crawshaw, M.D.
Founder, Oregon Health Decisions
Portland, Oregon

3:30-3:45
Questions and Discussion

3:45-3:50
Introduction of the Lieutenant Governor
Dr. Collins

3:50-4:15
"Why the Future is in Your Hands"
The Honorable Pierre Howard,
Lieutenant Governor of Georgia
Invited Guest Speaker

4:15-4:30
Questions and Discussion

4:30-4:50
Conclusion: MAG's Vision of Health Care in Georgia
Dr. Collins
Robert A. Burns, M.D.

4:50-5:00
Discussion

5:00
Adjourn

5:00-6:00
Reception

Sunday, February 3 Optional Seminars:

9:00-10:30
Your Practice As Small Business: Vital Tips You Need to Know
Sponsored by MAG Mutual Insurance Company

- How Chapter 14 rules now affect buy-sell agreements
- Private pension — access to money before 59½
- Disability income — how to increase your limits: how to get two years for the price of one
- How the Deficit Resolution Act affects physicians

Medicare Problems in Georgia — Past, Present and Future
Joseph P. Bailey, Jr., M.D., Moderator

- OBRA '91: the new Medicare changes brought by the latest Budget Reconciliation Act
- Aetna's forcible recoupment of its overpayments to physicians
- HealthCare COMPARE: will it get a new Georgia contract?
- Physician audits and postpayment reviews
- The RBRVS phase-in — where we are

February 2-3

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Using Nurse Protocols to Delegate Authority to Order Prescription Drugs

Robert N. Berg

IT IS A QUESTION we have been asked repeatedly over the last decade: How far can a physician go in delegating, to nurses and other non-physicians, the authority to prescribe, order, and dispense controlled substances and other prescription drugs? Ten years ago, this was an exceedingly difficult question to answer. Various statutes, including those regulating the prescribing and dispensing of controlled substances and dangerous drugs, as well as those setting out the scope of medical and nursing practice, could be identified alternatively as supporting or limiting the role which a non-physician could play in dealing with controlled substances and dangerous drugs. Indeed, two Opinions issued by the Attorney General of the State of Georgia in 1979 seemed to highlight the difficulty in dealing with this issue:

- In one Opinion, the Attorney General found that nurses were authorized to administer medication, through reference to a written protocol. Significantly limiting this finding, however, was the Attorney General's conclusion that authority did not extend to administration of prescription drugs.¹
- Later that same year, the Attorney General also ruled

that it was within the scope of the practice of nursing for a nurse to call in prescriptions to a physician. Essentially, the Attorney General found that, in this process, the nurse acted as little more than a communications conduit, to relay information from the ordering physician to the pharmacy.²

Nearly 10 years later, a third ruling by the Attorney General significantly limited participation of nurses in the prescription drug process. Specifically, the Attorney General opined that nurses were not authorized to write or telephone in prescriptions by reference to a written protocol.³ The basis for this ruling was the Attorney General's determination that, notwithstanding the prevalence of the practice at that time, there was no statutory authority for nurses to prescribe medications by reference to a written protocol.

As a consequence of this latest Attorney General Opinion, the Georgia General Assembly took

up the issue of the delegation of ordering and dispensing prescription drugs pursuant to written protocol in its 1989 session. The result of the General Assembly's deliberations, codified at O.C.G.A. §43-34-26.1, is the subject of this month's Legal Page.

Who Can Prescribe and Order Drugs

The new statute draws a clear distinction between the "prescribing" of drugs, on the one hand, and the "ordering" of drugs, on the other hand. (A "drug" is defined to include dangerous drugs and controlled substances, with the exception of Schedule I controlled substances.⁴) "Prescribing" a drug may only be performed by a physician. In contrast, "ordering" a drug — defined as meaning to select a drug, through physician delegation in accordance with a nurse protocol or a physician's assistant's job description — may be accomplished by a nurse or physician's assistant.⁵

How Does the Delegation Process Work?

The statutory scheme contemplates that a physician delegates the authority to order prescription drugs through the use of a written document. In the case of a physician's assistant, that document is the "job description" which the physician

* This article was prepared at the request of the *Journal*. Mr. Berg is a principal in the law firm of Vincent, Chorey, Taylor & Feil, Suite 1700, The Lenox Building, 3399 Peachtree Road, NE, Atlanta, Georgia 30326. Send reprint requests to Mr. Berg.

prepares for the physician's assistant and files with the Composite State Board of Medical Examiners (the "Board"). This "job description" describes the duties which may be performed by the physician's assistant and would include the administering and ordering of prescription drugs.⁶ For nurses (defined in the statute as registered professional nurses⁷), the written document is known as a "nurse protocol," defined as a written document mutually agreed upon and signed by a nurse and a licensed physician, by which the physician delegates to that nurse the authority to perform certain medical acts, including the administering and ordering of prescription drugs.⁸

What Acts May Be Delegated to the Nurse Under the Statute?

As indicated above, the statute deals explicitly with the ordering and administering of prescription drugs pursuant to a "job description" (physician's assistant) or "nurse protocol." The statute also sets out the authority for a physician to delegate two other services: The delegation of authority to order medical treatments, and the delegation of authority to order diagnostic studies. Unfortunately, the statute does not go further and define exactly what constitutes "medical treatments" or "diagnostic studies."

The primary delegation authority, encompassed by the statute, is the authority for certain categories of nurses to order and dispense certain controlled substances (selected from a formulary of such drugs established by the Board), and dangerous drugs, medical treatments, and diagnostic studies. In that regard, the

“The statute creates a multi-tiered system of delegation authority, depending on the type of practitioner, the type of drug, and the practice setting.”

physician may delegate these functions only to what are commonly called "advanced practice nurses" — that is, to a nurse recognized by the Georgia Board of Nursing as a certified nurse midwife, certified registered nurse anesthetist, certified nurse practitioner, or a clinical nurse specialist, psychiatric/mental health.⁹ Again, the specific delegation authority would be contained in the written nurse protocol.

Additionally, a physician may delegate to *any* nurse the authority to order dangerous drugs, medical treatments, and diagnostic studies, as well as the authority to dispense dangerous drugs, if the nurse is acting in an "indigent setting." This is identified by the statute as being those cases where the nurse is acting as an agent or employee of the Division of Public Health of the Georgia Department of Human Resources, any county Board of Health or certain organizations authorized under the Internal Revenue Code or Federal law to provide medical services and dangerous drugs at no cost to the patient or at a cost based solely on the patient's ability to pay.¹⁰ This same delegation may be made to a nurse in hospital-owned outpatient clinics, under certain circumstances.¹¹

In essence, the statute creates a multi-tiered system of delegation authority, depending on the type of practitioner, the type of drug, and the practice setting. Advanced practice nurses may order dangerous drugs and certain controlled substances, without regard to practice setting but may only *dispense* these drugs in an indigent or hospital-owned clinic setting; other nurses are limited to these settings, for both ordering and dispensing.¹²

Who Regulates the Delegation by Physicians to Nurses?

Regulation of the delegation process, as envisioned under the new Code section, rests not only with the Board, but also with the Georgia Board of Pharmacy and the Georgia Board of Nursing. While the Board has not opted since the enactment of the statute, to promulgate regulations, both the Georgia State Board of Pharmacy¹³ and the Georgia Board of Nursing¹⁴ have adopted specific regulations designed to govern the use of written protocols by registered nurses. Eventually, we would anticipate that the Board will also adopt regulations, more notably in light of the statutory authorization to the Board "to require that protocols not fall within [certain] established criteria and standards be submitted to the Board for review and approval or rejection."¹⁵

Conclusion

For many years, physicians have been authorized by statute to delegate "to a qualified person other than a physician's assistant (,) any acts, duties, or functions which are otherwise permitted by law or established by custom. . . ."¹⁶ Historically, this broad delegation of authority was

sufficient to serve as the sole, exclusive basis for allowing physicians to delegate certain acts without written protocol. The new statute, resulting from heated debate in the Georgia General Assembly and significant compromises among the various groups interested in the issues involved, will serve to allow physicians, under certain identifiable circumstances, to delegate authority to nurses pursuant to written protocols, with the assurance that those activities will not be construed as

‘The new statute draws a clear distinction between the “prescribing” of drugs, on the one hand, and the “ordering” of drugs, on the other hand.’

constituting the unauthorized practice of medicine.

Notes

1. 79-2 Op. Att’y Gen. 5 (1979).
2. 79-32 Op. Att’y Gen. 66 (1979).
3. 88-9 Op. Att’y Gen. 1 (1988).
4. O.C.G.A. § 43-34-26.1(a)(2), (4) and (5).
5. O.C.G.A. § 43-34-26.1(a)(8).
6. O.C.G.A. § 43-34-26.1(a)(5.1).
7. O.C.G.A. § 43-34-26.1(a)(6).
8. O.C.G.A. § 43-34-26.1(a)(7).
9. O.C.G.A. § 43-34-26.1(b)(1).
10. O.C.G.A. § 43-34-26.1(b)(2).
11. O.C.G.A. § 43-34-26.1(b)(3).
12. See, generally, Note, 6 Ga. State L. Rev. 304, at 306-307 (1989).
13. Chapter 480-30, Rules of the Georgia State Board of Pharmacy.
14. Chapter 410-13, Rules of the Georgia Board of Nursing.
15. O.C.G.A. § 43-34-26.1(c).
16. O.C.G.A. § 43-34-26(b)(9).

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Needed: Better Cancer Education in Medical Schools

Kamla J. Shah, M.D.

CANCER IS NOW the second biggest killer of people in this country. The overall survival rate from cancer is now about 41%. I would like to advance the hypothesis that these survival figures could be significantly improved with a more comprehensive and better organized exposure of medical students and house officers to cancer patients. It has been my observation that a significant proportion of American medical students and residents do not currently see many cancer patients, in part because cancer education is so fragmented. The first physician to see a patient with cancer may decide the fate and outcome for that patient. Yet, medical students, interns, residents, and even faculty may observe particular cancer cases, but may not have enough knowledge regarding all the precise treatment options for such patients. This is a serious situation which is not uncommon because cancer therapy is a dynamic specialty which is continually changing and improving.

Often, an attitude of pessimism regarding cancer still persists among students and even some of their teachers. This relates to the fact that traditionally, most cancer education comes from working with inpatients, many of whom have advanced or terminal

disease and cannot be successfully treated as outpatients. When the greatest exposure is at the most negative end of the spectrum, it is difficult for students to develop a positive attitude. They do not observe the benefits of early diagnosis, since the patients with small curable cancers are often seen and treated on an outpatient basis. The students become physicians who believe that patients who have cancer die after receiving very toxic treatments.

‘It has been my observation that a significant proportion of American medical students and residents do not currently see many cancer patients, in part, because cancer education is so fragmented.’

Dr. Shah is Professor, Radiation Oncology
Medical College of Georgia, Augusta, GA 30912.
Send reprint requests to her.

Several specific areas of weakness in cancer teaching in medical education are noteworthy:

1. There is a lack of an organized comprehensive core curriculum in cancer for students.
2. Medical economic considerations have made outpatient medical practice increasingly more important, but student rotations in ambulatory care are quite limited and do not allow the student to see enough of the long-term cures from cancer or the long-term side effects or how patients adjust to having cancer.
3. Treatment and care of patients with cancer in community hospitals is increasing, yet we are sending young physicians into this kind of practice with very limited exposure to cancer patients. Even oncologists are going into practice in surgical, medical, and radiation oncology subspecialties very soon after graduation and sometimes their training, as well, does not provide enough exposure to all of the most updated treatment modalities.

Unless greater effort is made by our teaching institutions, it seems that all the research, millions of dollars and man hours spent to reduce cancer deaths, will not reach the patient.

The ARRO study¹ regarding status of radiation oncology in the curriculum of American medical schools reviewed the current role of radiation therapy teaching in undergraduate medical education. This study showed that only 48 of 116 medical schools required radiation oncology as part of the basic science curriculum. Only 18 of 48 schools have a comprehensive introduction to radiation oncology. The number of hours devoted to radiation oncology ranged from 1 to 10 hours, with an average of 3.9 hours.

In our center, we have about 120 patients receiving treatment every day. Approximately 5 to 8 patients are seen in initial consultation, and another 10 to 15 as follow-up visits as well. Fifty to sixty percent of all patients with cancer are seen in radiotherapy for curative or palliative treatment. This large amount of clinical material concentrated in one area should be utilized to teach the students about cancer. If these clinics are disease-site oriented for a given day, the student could benefit from seeing, for example, a large number of patients with breast cancer treated primarily with radiation or combined radiation and surgery and

chemotherapy, all within a reasonable time frame for the student. In the follow-up clinics, a student can observe patients who have had cancer and are now leading a normal life for long periods of time.

Cancer patients help students learn to be sympathetic, considerate, and compassionate physicians. They learn to deal with patients' emotions. This group of patients encompasses a wide spectrum of physical signs and symptoms, and most patients are very cooperative in allowing students the opportunity to do physical examinations. In almost any subsequent choice of a medical subspecialty practice, the future physician will be called upon to see, consult, and/or make decisions for cancer patients. If an early diagnosis is missed or treatment option overlooked, the patient's prognosis may be compromised.

Since 50 to 60% of cancer patients receive some form of radiation treatment, it is essential that any physician dealing with cancer understands the role of radiation therapy. Interns, residents, and fellows in other specialties such as gynecology, surgery, ENT, medical and

pediatric oncology need a rotation in radiation oncology as part of their training programs. All of us as undergraduate medical students, learn something about surgery and medicine, but radiation oncology is not being included in most undergraduate medical school curricula.

The valuable resources in radiation oncology combined with lectures in oncology should be utilized to teach medical students as part of their regular third or fourth year curriculum. This will also encourage radiation oncologists to become more involved with teaching and will certainly benefit the patients. "Ideal" organization might be to establish a cancer curriculum in medical schools which involves faculty from all specialties that deal with cancer patients. Lectures in oncology and required rotations at the cancer center for third or fourth year students would be included in this curriculum. The future of cancer therapy and how much it will benefit our patients depends ultimately on how well we teach our medical students and residents.

Reference

1. Wall TJ. Status of radiation oncology in the curriculum of American medical schools. *Int J Radiat Oncol Biol Phys* 1987;13:1431.

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MRI UPDATE



Figure 1

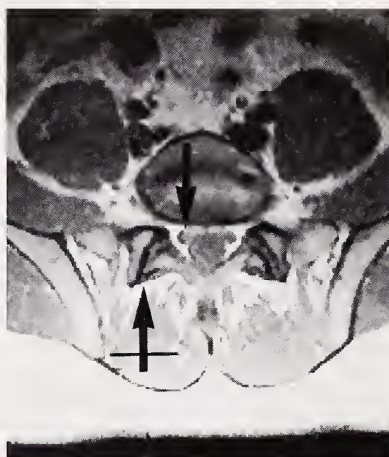


Figure 2

CLINICAL HISTORY: This is a 26-year-old male with back pain and right lower extremity radiation.

FINDINGS: This is an example of a normal study on a young adult. **COMMENT:** MRI is the screening test of first choice for suspected disorders of the lumbar spine. Notice the clear depiction of the normal L5-S1 disc (figure 1, crossed arrow). The discs of this patient exhibit high signal intensity reflecting normal hydration and none of the discs indent the thecal sac which is of intermediate signal intensity and appears as the gray band

in the center of the image. The vertebral bodies are homogeneous and free of destructive lesions. The conus medullaris (arrow) is normal. This sagittal image demonstrates the advantages of MRI over other screening modalities. Routine CT scanning will not display the conus medullaris, lesions of which may masquerade as disc herniation. The general area of coverage is superior with MRI. Disc detail is much better displayed with MRI.

The axial image at L5-S1 (figure 2) exhibits delineation of intraspinal detail far superior to that of CT. The right S1 nerve root is clearly

displayed (arrow) surrounded by normal perineural fat which is the bright high intensity material in the periphery of the spinal canal. State-of-the-art MR images clearly display the bony anatomy of the lumbar spine including the facet joints (crossed arrow). Degenerative diseases and bony neoplasm are routinely detectable.

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THE COVER

A ceramic heart sculpted and painted by Michael Lucero is featured on the cover of this Special Heart Issue. Read about this heart- and thought-provoking artist on page 62.

Cover design by Hank Richardson, Richardson Design, Inc., Atlanta.

About the Cover Artist

Michael Lucero

“HEART (PLAZA)” on the cover of this month’s *Journal* is part of the latest works of ceramic sculpture by California artist, Michael Lucero. This body of work was created by Mr. Lucero during his tenure as a visiting artist at Humboldt State University in Arcata, California. For Lucero, this marked a return to the California redwood forests of his undergraduate years. The plaza in the heart on the cover is in Arcata.

The landscapes Lucero depicted while at Humboldt contains the familiar features of the Northwest: tall trees, clouds, and fish. Lucero shares every child’s sense of adventure and discovery, whether the frontier be outer space, reachable by rocket ship, or the infinitesimal world of science, invisible to the naked eye. In Lucero’s work, we look at the world as through a powerful lens. Like the child’s world, Lucero’s is larger than life. It is alive with fantastic rock formations, waterfalls, and eddying streams, giant beetles, moths, and fish.

While the heart is the main theme for this new work, it is not solely a heart of passion, a vessel or container for our elations, our depressions, our loves, or our lives. The heart, as a “muscle of life” is a universal symbol that transcends global barriers. As a metaphor for humanity’s capacity for love, pain, sorrow, and happiness, the heart is made of clay, the most symbolic material. These are hearts of clay; clay of earth.

Just as the heart is a support for life, Lucero’s hearts are supports for his own personal imagines, made alive by the viewer’s personal interpretation of the artist’s metaphors. These whole and dissected then reassembled organs are etched with the stories of history such as totems of the Northwest primitives, shown in the photo on this page, or the figurines of Pre-



Columbian times. Also represented are the continuous cycles of the moth, the salmon, and the forests of Lucero’s own past. Through the image of the moth and its metamorphosis, he speaks of his own life’s cycle, inner changes, and strivings. His moth also signifies nature’s enduring and continual cycle of renewal. The salmon imagery suggests the indefatigable human spirit that is ever striving to change and progress in spite of oftentimes overwhelming odds. The land, natural and alien, hosts the clay with which this artist interacts,

resulting in these magnificent works.

Michael Lucero’s work was recently acquired by The Hirshhorn Museum in Washington, D.C. His work is also represented in the permanent collections of The Metropolitan Museum of Art in New York City and The San Francisco Museum of Modern Art, as well as other public collections.

Lucero is represented in Atlanta by Fay Gold Gallery, 247 Broadway Ave., Atlanta, GA 30305; 404-233-3843.

Introducing This Issue

THIS FEBRUARY ISSUE of the *Journal of the Medical Association of Georgia* is dedicated to cardiology. This is appropriate since February is "Heart Month" for the American Heart Association and St. Valentine's Day is February 14.

For this issue, we have 4 articles dealing with important aspects of cardiovascular function and disease. Dr. Hall succinctly reviews what's new in systemic arterial hypertension, a field in which there is now an exponential increase not only in knowledge of the basic physiology of blood vessels and the changes associated with hypertension but also in our knowledge of the effects of different types of therapy in different groups of patients. Drs. Cooper and Myers discuss the importance of knowing what causes variations in serum total cholesterol levels when obtaining and analyzing blood samples. Dr. Fletcher summarizes important new material developed by the American Heart Association, and I have summarized important new recommendations for prophylaxis against bacterial endocarditis.

Each of these articles carries practical information that is directly applicable to the daily management of patients with known or suspected cardiovascular disease. **We welcome suggestions of future topics and authors for your monthly "Heart Section" article.**

Robert C. Schlant, M.D.
Heart Section Editor

A MUST for intelligent survival! We are entering into the most critical period of negotiations and development of a new system of delivery of health care and reimbursement for same that most of us have ever faced. We are seeing the development of "Standards of Care" which will, to a great degree, dictate how we will diagnose and treat illnesses. This will also determine which tests and procedures will be reimbursed for illnesses, and the Relative Value Scales will determine the level of reimbursement. These two developments can radically change the face of medical practice. How we negotiate these developments will be paramount to the practice of Medicine as we know it.

Then we have the large number of our citizens who are not covered by any insurance plan. Shall we see the institution of a National Health Plan for these individuals? Shall we see the mandating of care for these people and a markedly reduced reimbursement plan to make the program affordable? Is this not enough to convince one that each of us needs to know as much as possible about the issues and the options?

The Leadership Conference might better be called the Medical Survival Conference. It is not just a program for leaders but rather a program of information to allow you to make the intelligent judgments that will befall you. This conference is for your leaders to report to you and advise you concerning the major developments occurring in Medicine. Ignorance of these issues denotes no safety, but much peril. Your future is the issue — is it important to you????

*John D. Watson, Jr., M.D.
Past President, MAG*

I'M PLEASED to support the MAG effort to involve more leaders of our profession in this state in the February Leadership Conference. I have been involved with the Leadership Conference at the state level and also at the A.M.A. for several years and am consistently impressed with the favorable reaction of everyone in attendance after these meetings. The leadership of medicine in Georgia absolutely must keep up with legislative, regulatory, and political changes which effect us and our patients. We all understand the value of keeping up with our professional education, and I urge everyone in leadership positions in medicine to keep up with the socioeconomic changes that are occurring.

The Leadership Conference is a condensed, "sure fire" way to keep up with these changes and enable each of us to be more effective as we protect the profession and our patients. I hope to see each of you in February at the MAG Leadership Conference!

*Harrison L. Rogers, Jr., M.D.
Past President, AMA*

LAST YEAR during my stint as MAG President, I initially had ambivalent feelings about proceeding with a Leadership Conference. After several outstanding Leadership Conferences over the past few years, I thought it might be wise to pause, reflect, and skip a year. When I voiced that opinion to some of my colleagues, I was met with surprise and disappointment. I was reminded that we face more pressing issues than ever before and have more new members who are anxious to play an active part in shaping the future of America's medicine. So I quickly reconsidered, and with the aid of Steve Davis and other MAG staff, an outstanding program

was arranged. We had an outstanding turn-out from all across the state and in general the meeting was quite a success. We may not have solved all of the problems that we face, at least we are better equipped. In fact, the AMA has borrowed some of our ideas for its own annual leadership conference.

This year Bill Collins has worked long and hard to put together the most successful Leadership Conference in our history. In order to successfully cope with the myriad of problems facing medicine now we need to keep abreast of the latest changes and threats to the traditional practice of good medicine.

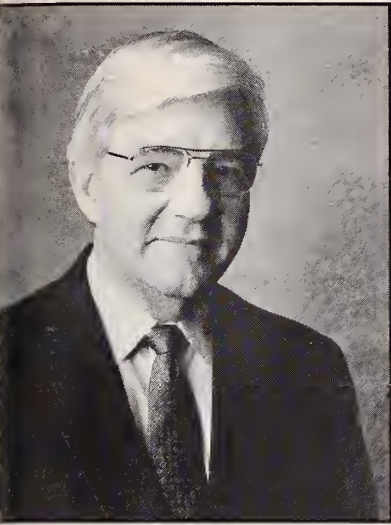
*Joe L. Nettles, M.D.
Past President, MAG*

AS THE TIME APPROACHES for the 1991 MAG Leadership Conference, we all need to be reminded of its importance. The purpose of the Conference is to present to the physician leaders of Georgia an overview of National and State problems surrounding the delivery of health care.

Over the years, I have found it to be a very useful Conference that serves in part as a forecast of changes and events that are coming our way. It also serves as a forum for those whose views are unorthodox to the majority of the physicians in this State. (There have been several speakers that I have resisted the urge to step up to the podium and strangle).

If you have attended before, you know the worth of our MAG Leadership Conference. If you have not, I invite you to come to the 1991 Conference. I'm sure that you will find it informative and well worth your time.

*Jack F. Menendez, M.D.
Past President, MAG*



William C. Collins, M.D.

Panacea or Pandora's Box?

THE GREEK influence on things medical is so great that one must constantly renew his acquaintance with the classical world. Both the historical and mythical Aesculapius, the god of medicine and of healing, is a well known reference in many oaths and as such has related to our profession through the ages. A less known fact is that he had two daughters, Panacea and Hygeia, the goddesses of healing and health, respectively. Having been carefully instructed by Apollo, his father, Aesculapius became so great in his healing abilities that he could even call the dead back to life. Jupiter, seeing this and fearing that the people of the world would forget him and worship their physician, took a thunderbolt and ended Aesculapius' brilliant medical career.

Although some physicians are accused of becoming so fascinated with their skills that they attempt to "play God," few of us ordinary mortals will ever pose such a threat to a higher being that we will be sucked down by lightning out of

“Let us not lose sight of the costs of the searches (for perfect public health and universal remedy) and allow a thunderbolt of cost containment, in the guise of a bureaucratic universal health scheme, to pierce the heart of American medicine.”

jealousy. However, Medicine as a whole can become so absorbed in its search for Hygeia (perfect public health) and Panacea (all healing and universal remedy) that we lose sight of the costs of the searches and allow a thunderbolt of cost containment, in the guise of a bureaucratic universal health scheme, to pierce the heart of American medicine.

As you may recall, Pandora was the first woman sent to Earth by Zeus to punish mortal men for stealing fire from the gods. A huge box was left in her keeping by Mercury. She became enchanted with the box, and her curiosity got the best of her. She untied the golden cord surrounding the box and raised the lid for one little peep. Just as Zeus planned, she released all the diseases, sorrows, vices, and crimes that could afflict humanity.

So, Pandora's box has become a global symbol of a very valuable, appealing present which, in reality, may be a curse and upon its opening unleash untold suffering.

Needless to say, physicians, legislators, and citizens alike who are turning every stone looking for a Panacea for our medical care delivery problems must make sure that the vessel they select is a true Panacea and not a Pandora's Box.

William C. Collins

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QUOTES

*If February give much snow
A fine Summer it doth foreshow*
ENGLISH RHYME

PERSONALS

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The Managing Editor of this journal known in years past (1/2, actually) as Ms. Susan J. Johnson has for reasons of a personal nature proceeded with the assumption of her original name and will henceforth be known as Ms. Susan T. Johnson. She has not changed her marital status, her social or recreational interests nor her always creative and productive work with this publication. Your Editor would only observe that we all need a good shake up now and then in our lives to disrupt the doldrums of our existence. The above is one way of accomplishing this, though I have been threatened with justifiable homicide by my editor should such a notion enter my own mind.

and CMS

Ellis Keener, M.D., a neurosurgeon in Gainesville, was elected Secretary of the Board of Governors of the American College of Surgeons at the annual Medical Congress in San Francisco last October 10. Dr. Keener was also appointed Chairman of the Governor's Committee to study the fiscal affairs of the College.

Medical Association of Atlanta

Edmund E. Grossniklaus, M.D., has been named the initial holder of the Walthour-DeLaPerriere Professorship in ophthalmology at Emory University. Dr. Grossniklaus is director of the L.F. Montgomery Ophthalmic Pathology Laboratory, assistant professor of ophthalmology, and assistant professor of pathology at Emory. He received a bachelor's cum laude in biology and chemistry from

Miami University of Ohio in 1976 and his M.D. at Ohio State University. He completed his ophthalmology residency at Case Western Reserve University, a residency in anatomic pathology at Case Western Reserve, and a fellowship in ophthalmic pathology at the Armed Forces Institute of Pathology in 1989.

Among Dr. Grossniklaus's honors are Phi Beta Kappa, a travel fellowship from the Association for Research in Vision and Ophthalmology, the George K. Smelser Award for best paper in the journal *Cornea* in 1987, and a Heed Foundation Fellowship.

The Walthour-DeLaPerriere Professorship was funded in 1978 with gifts made by Lena Stanton DeLaPerriere and Lilla Mae Stanton Walthour of Social Circle. The sisters were patients of Dr. F. Phinizy Calhoun Jr., former ophthalmology chairman.

FAMILY PRACTICE TEACHER'S AWARDS

Charles Bagley, M.D., of Alma; **Howard McMahan, M.D.**, **Robert Morgan**, and **Dennis Thomas, M.D.**, of Adel; and **Jesse Ray Grant, M.D.**, and **Patton Smith, M.D.**, of Forsyth received Family Practice Teacher's Awards from the American Academy of Family Physicians. The awards were presented during the Georgia Academy of Family Physicians' 42nd Annual Scientific Assembly held in Atlanta.

These awards are presented annually by the AAFP in recognition of family physicians who have volunteered 75 hours or more of their time teaching in any area of family practice medicine during 1989. These physicians served as volunteer teachers through preceptorships,

undergraduate departments or divisions, or other contact with medical students or residents for the furtherance of family practice.

DEATHS

Boaz Harris, M.D., of Atlanta, the psychiatrist who founded Peachford Psychiatric Hospital and was its medical director for 7 years, died last December. He was 64.

Dr. Harris graduated from Yale University in 1946 and Yale Medical School in 1949. He interned at Grace-New Haven Community Hospital and was commissioned in the Army, completing residency in the Army Hospital.

Dr. Harris became chief of neuropsychiatry at Fort Rucker, Alabama, and underwent training to fly Army helicopters, helping design the craft used in air rescue missions. He was trained as an Air Force flight surgeon at Randolph Air Force Base in Texas.

He resigned with the rank of major in 1958 and began psychiatric practice in Atlanta. He was a former assistant clinical professor of psychiatry at Emory University School of Medicine, and former chief of staff at Peachtree Hospital and Peachford Hospital.

Dr. Harris served on a panel of medical consultants for the Federal Aviation Administration from 1966 to 1980, working on skyjacking cases and management and morale problems related to air traffic controllers. He was also a consultant to the chief psychiatrist of the State Department during the Iranian hostage crisis.

Financially Distressed Hospitals Increasing

Approximately one out of eight U.S. hospitals is coping with severe financial stress, according to a recent report by the Baltimore-based Health Care Investment Analysts Inc. (HCIA). Some 704 hospitals nationwide have been identified as "distressed," representing a more than 30% increase since July, 1990, when 538 hospitals were characterized as distressed.

HCIA defines a distressed hospital as one that has experienced substantial changes in utilization, payer mix, profitability, capital structure and/or liquidity.

The majority of the distressed hospitals are not-for-profit facilities, and 63% of them are located in urban areas. HCIA President George Pillari said most of the hospitals added to the distressed list since July are experiencing noticeable declines in inpatient utilization.

"When a hospital experiences a 24% decline in utilization over a 3-year period, that's something that will trigger much more than a weak performance for 1 year," he said. Pillari estimated that one-half of the distressed hospitals may be forced to close within 4 years.

"There is going to be a class of hospitals that will access the capital markets and a class that simply won't be able to," he said. "And those with no access to capital will eventually close." HCIA found that:

- Hospitals on the list have a total of \$11.1 billion in long-term debt outstanding; 107 of the facilities with current credit ratings accounted for more than \$4.2 billion of debt.

- States with the highest concentration of distressed hospitals include Florida, Oklahoma, and Texas.

- States with the lowest concentration of distressed hospitals include

Maryland, Utah, North Carolina, and New Hampshire.

- Nearly one-half of the distressed hospitals operate between 25 and 99 beds; 37% have between 100 and 249 beds.

- Twenty-four percent of the distressed facilities are investor-owned; 21% are owned by the government.

Consumers "Desensitized" To High Cost of Health Care

According to HHS Secretary Louis W. Sullivan, M.D., employer-provided health insurance has "desensitized" consumers to the cost of providing care.

During a speech at Stanford University, Sullivan said that spiraling health care costs result from the tax status of employer-based health care: Company-provided insurance is excluded from each worker's taxable income.

"Because insurance is bought with untaxed dollars, it is economically reasonable for those who benefit most from the tax exclusion to buy more of it than something for which payment must be made in after-tax dollars," he said.

He added that this tendency leads employees to seek more and costlier coverage, which will result in a federal government subsidy totaling \$58.6 billion for 1990.

HHS officials described Sullivan's speech as part of a "national dialogue" on health care policy that will help to shape HHS policy recommendations on changing the nation's health care system.

Utilization Management Data Studied

Four utilization management programs used by Blue Cross and Blue Shield plans since 1980 trimmed hospital payments in 1988

by nearly \$53 per patient, reduced admissions by 20%, and cut length of stay by nearly one-quarter, a new study found.

The study, conducted by the Chicago-based Blue Cross and Blue Shield Association (BCBSA), examined hospital data from 1980-1988 provided by 56 of the Blue Cross and Blue Shield of 74 plans after they adopted preadmission certification, concurrent review, retrospective review with denial of payment, and case management.

"This is the first major study that proves conclusively that certain utilization management programs generate tangible reductions in hospital payments, admissions, and days," said Douglas S. Peters, BCBSA senior vice president.

The BCBSA attributed the effectiveness of the four measures to the increasing prevalence of the programs and to changes in physician practice patterns and patient education.

Recovery Room Stays Are Longer For Smokers

Smokers tend to remain in post-surgery recovery rooms longer than do non-smokers, according to data from a recent study conducted at Monmouth Medical Center in Long Branch, N.J.

The study of 327 patients found that 38% of non-smokers were able to leave the recovery room within an hour, but only 23% of smokers were able to do so.

In addition, nearly one-fifth of the smokers required recovery room stays greater than 2 hours, compared with only one out of 14 non-smokers.

"The idea that you can be a healthy smoker is not true," said David S. Handlin, M.D., of Monmouth's Department of Anesthesiology. "If you're smoking, it is

reases the amount of time you'll spend in recovery."

Although the study did not highlight specific causes for the differences in lengths of stay, post-study interviews with recovery room nurses found that smokers tend to have more respiratory and cardiopulmonary problems, he said.

Handlin said the study's finding may prompt hospitals and insurers to encourage patients to stop smoking before surgery to reduce expensive recovery room costs. Further study, he added, is needed to determine whether stopping smoking several weeks before surgery can speed up recovery time.

Safe Devices Measure Gets High Marks

The new Safe Medical Devices Act will protect patients and help to shield hospitals from civil liability actions, American Hospitals Association officials said.

The measure tightens standards for approving medical devices used in hospitals and for reporting faulty ones to the Food and Drug Administration (FDA) and to manufacturers.

Within 10 days of becoming aware of a death due to a faulty device, hospitals must submit a confidential report to the FDA. Hospitals then are required to notify the manufacturer about any serious injury or illness that is caused by a medical device.

The measure shields hospitals from civil liability actions related to the content of such reports unless they knew the information was false.

AHA Executive Vice President Paul Rettig said the AHA strongly supports the bill's goal of protecting patients by tracking problem medical devices. "Although this new legislation will mean additional reporting by hospitals, the final bill

attempts to ameliorate the burden and extends necessary confidentiality protections to hospitals," he said.

The legislation stemmed from a 1986 General Accounting Office report that found that hospitals report less than 1 percent of problems with medical devices directly to the FDA, and they report only about one half of all problems connected with faulty devices to the manufacturer.

(This page is sponsored by the Georgia Hospital Association.)

QUOTES

*The February born will find
Sincerity and peace of mind;
Freedom from passion and from
care*

If they the amethyst will wear.

AUTHOR UNIDENTIFIED

*Start every day off with a smile
and get it over with.*

W.C. FIELDS

*I like long walks, especially when
they are taken by people who
annoy me.*

NOEL COWARD

*If I only had a little humility, I'd
be perfect.*

TED TURNER

*Jealousy is all the fun you think
they had.*

ERICA JONG

*Examine each opinion: if it seems
true, embrace it; if false, gird up
thy mind to withstand it.*

LUCRETIUS: *De rerum natura*, II, 57
B.C.

*I shall adopt new views as fast
as they shall appear to be true
views.*

ABRAHAM LINCOLN: *Letter to
Horace Greeley*, Aug. 22, 1862

*It's just as unpleasant to get more
than you bargain for as to get
less.*

GEORGE BERNARD SHAW

*Ours are a sort of modest,
inoffensive people, who neither
have sense nor pretend to any,
but enjoy a jovial sort of dullness;
they are commonly known in the
world by the name of honest, civil
gentlemen.*

ALEXANDER POPE:
Letter to William Wycherley, Oct.
26, 1705

*I thank God I am as honest as
any man living that is an old
man and no honestest than I.*

SHAKESPEARE:
Much Ado About Nothing, III, c.
1599

*The natural man has a difficult
time getting along in this world.
Half the people think he is a
scoundrel because he is not a
hypocrite.*

E. W. HOWE: *Sinner Sermons*, 1926

*Some feelings are to mortals
given,
With less of earth in them than
Heaven.*

WALTER SCOTT: *The Lady of the
Lake*, II, 1810

Speech is silver; silence is golden.
GERMAN PROVERB

*The art of silence is a great as
that of speech.*

IBID.

The god of the lucky is silence.

IBID.

L'Envoi of a Minor Poet

*When I am poet to the courts of sleep
I hope some mortal bard will say of me:
He wrote with zest but with humility.
His pen knew not the words to make us weep,
Nor yet to make us laugh aloud or long,
But simple words that give the heart a song
And send us softly smiling to our sleep.*

To a Dark Day

*There is beauty in the darkest day
For hills can never hide their very being.
One can sense, almost without the seeing,
A sunset wrapped in subtle shades of gray.
There is a subtlety of subdued light,
That brilliance hides in muted overt tones.
(As hard bequeaths its final self to stones
So dark fulfills itself only in night.)
Without the blatant freshness of the spring,
Without the brilliancy full moons display,
Without the satiate feel of righted wrongs
Or all the juvenescence new loves bring,
There is more grandeur in one dreary day
Than in half the rainbows, all the songs!*

JOHN RANSOM LEWIS, M.D.

Dr. Lewis, a plastic surgeon in Atlanta, is Georgia's Poet Laureate.

"Of Agendas and Priorities"

**EDITOR'S COMMENT
CONCERNING MENCKEN:**
Your Editor places the following remarks of Henry Augustus Mencken in this Journal not because he agrees with them, far from it, and surely not to offer insult to the highly motivated and intelligent individuals who have with personal sacrifice of time and finances reached a position of decision making in our State legislative body. They are placed here simply because Mencken was an individual interested in the American political system, knew it, and wrote of it extensively and because of the feeling that we all need to hear and hopefully with reasonable judgment and intelligence understand those views and voices different from our own. That capacity to hear "other voices" leads one in this political system of ours to understanding, to compromise, and thus to workable and effective resolution of difficult issues. I beg, gentle reader, take no offense at one who is simply saying what we all must know, that "politics" is but "the art of the attainable.")

"So much for the evidence. The deduction I propose to make from it is simply this: that a like increase would follow if the American people could only rid themselves of another and worse false assumption that still rides them — one that corrupts all their thinking about the great business of politics, and vastly augments their discontent and unhappiness — the assumption, that is, that politicians are divided into two classes and that one of those classes is made up of good ones. I need not argue, I hope, that this assumption is almost universally held among us. Our whole politics, indeed, is based upon it, and has been based upon it since the earliest days. What is any political campaign save a concerted effort to turn out a set of politicians who are admittedly bad and put in a set who are thought to be better? The former assumption, I believe, is always sound; the latter is just as certainly false. For if experience teaches us anything at all it is this: that a good politician, under democracy, is quite as unthinkable as an honest burglar. His very existence, indeed, is a standing subversion of the public good in every rational sense. He is not one who serves the common weal; he is simply one who preys upon the commonwealth. It is to the interest of all the rest of us to

hold down his powers to an irreducible minimum, and to reduce his compensation to nothing; it is to his interest to augment his powers at all hazards, and to make his compensation all the traffic will bear. To argue that these aims are identical is to argue palpable nonsense. The politician, at his ideal best, never even remotely approximated in practice, is a necessary evil; at his worst he is an almost intolerable nuisance."

"The Politician,"
Prejudices, Fourth Series, 1924
H.L. MENCKEN

"One of the merits of democracy is quite obvious: it is perhaps the most charming form of government ever devised by man. The reason is not far to seek. It is based upon propositions that are palpably not true — and what is not true, as everyone knows, is always immensely more fascinating than what is true. Truth has a harshness that alarms them, and an air of finality that collides with their incurable romanticism. They turn, in all the great emergencies of life, to the ancient promises, transparently false but immensely comforting, and of all those ancient promises there is none more comforting than the one to

the effect that the lowly shall inherit the earth. It is at the bottom of the dominant religious system of the modern world, and it is at the bottom of the dominant political system. Democracy gives it a certain appearance of objective and demonstrable truth. The mob man, functioning as citizen, gets a feeling that he is really important to the world — that he is genuinely running things. Out of his maudlin herding after rogues and mountebanks there comes to him a sense of vast and mysterious power — which is what makes archbishops, police sergeants, and other such magnificoes happy. And out of it there comes, too, a conviction that he is somehow wise, that his views are taken seriously by his betters — which is what makes the United States Senators, fortune tellers, and Young Intellectuals happy. Finally, there comes out of it a glowing consciousness of a high duty triumphantly done — which is what makes hangmen and husbands happy."

"Last Words,"
Notes on Democracy, 1926
H.L. MENCKEN

IT SEEMS TO ME that no time, no time at all, has passed by us, or us by it, since we physicians last trudged along the highways and byways leading from hamlets large and small to our State Capitol — to the "center of power" — there to present to our legislative leaders those views of ours, those "positions," which as we saw the matter of concern would lead us all to a more perfect "health care system." We have done so for years. Rather,

some of us have done so, for others, far too many, have chosen to comment on the results of legislative sessions rather than participate in the solutions. Certainly, "trudging" to the Capitol, there to cajole and rub elbows and express opinions, is not the only way to accomplish the task. Nothing wrong with phone calls and letters and friendly chats with the local salon. But being there, on the premises, seems to make the most difference. It is the old and tried way, you see. It is much as Henry Fonda said in a Broadway play I saw in years past when he spoke of "making love." "There is nothing wrong with the old way," Henry said. Nonetheless, the time has indeed come when decisions will be made, made at least on our local state level, which will to some large or small degree shape our lives.

This most intriguing of activities, the "political process" has been studied from many aspects through the years. Perhaps one of the best known treatises which in some areas touches on this can be found in a small book written by an Italian by the name of Niccolo Machiavelli entitled *The Prince*. Some of the "political instructions" one finds there are the following:

"Here the question arises; where it is better to be loved than feared or feared than loved. The answer is that it would be desirable to be both but, since that is difficult, it is much safer to be feared than loved, if one must choose. For on men in general this observation may be made: they are ungrateful, fickle, and deceitful, eager to

avoid dangers, and avid for gain and while you are useful to them they are all with you, offering you their blood, their property, their lives, and their sons so long as danger is remote, as we noted above, but when it approaches they turn on you. Any prince, trusting only in their words and having no other preparations made, will fall to his ruin, for friendships that are bought at a price and not by greatness and nobility of soul are paid for indeed, but they are not owned and cannot be called upon in time of need. Men have less hesitation in offending a man who is loved than a man who is feared, for love is held by a bond of obligation which, as men are wicked, is broken whenever personal advantage suggests it, but fear is accompanied by the dread of punishment which never relaxes.

"A prince is also esteemed when he shows himself a true friend or a true enemy, that is, when, without reservation he takes his stand with one side or the other. This is always wiser than trying to be neutral, for if two powerful neighbors of yours fall out they are either of such sort that the victor may give you reason to fear him or they are not. In either case it will be better for you to take sides and wage an honest war. In the first case, you do not show your sympathies, you will be an easy prey for the winner to the delight and satisfaction of the loser, and you will have no reason to expect anyone to defend you or give you refuge. For the winner will not care for unreliable friends who may abandon him in adversity, and the loser will not welcome

you since you were not willing to take up arms and share the hazards of his fortune."

The Prince
NICCOLO MACHIAVELLI

We shall not be there alone with our legislators, however. "Others" have their own interests in areas far afield from our own. The Teamsters will be there talking of such things as speed on the interstate or the width of a semi trailer. The airlines will be there asking for new runways and airports. The Realtors will be there speaking of building codes and zoning matters. Such people and their lobbyists will consume the time of those we wish to influence and constrict our own access to them.

But "others" will also be there to mold and shape this "Health Care System" in the manner which they see best. Or, dare one mention the mere idea, mold and shape it in such a way that it stands to best serve and benefit their own interest. We will, all of us, be involved in this vital and active process. The representatives of the "hospital industry" will be there seeing some matters as we do, but still varying from us in the direction which they feel that other decisions should be made. Such also will be the case with the pharmacists, the suppliers of products to those of us involved in health care, the "payers" of the care we provide, both insurance companies and corporations and, banish the thought, the legal system will again rise to the challenge. We shall see trial lawyers behind each door and in

our sleep. We shall all say, and with conviction and hopeful sincere honesty, that we are engaged in a cooperative effort to devise a health care system which provides "quality" care to "everyone" at an "affordable" price. Those will be the key words —

"QUALITY"
"ACCESS"
"AFFORDABLE"

Nowhere, or at least not too strident, will there be mention of personal gain by these several involved parties. Not even by we of the medical profession. We shall talk of "improving the system for the populace." We shall talk only of —

"QUALITY"
"ACCESS"
"AFFORDABLE"

Now, if true be true, and though not a seer I think it may be so, then should be not acquaint ourselves with the thoughts, hopes, and desires of those for whom we wish to perfect this health care system of our State? It is in this regard that the Georgia Hospital Association conducted a survey this year just past, made an honest effort to find out what the people think about health care and its provision in this State of ours. They, the Georgia Hospital Association, commissioned a survey done by one of those organizations which make this type of sampling of public opinion their business. The results are said to have "a 95 per cent level of confidence and a 4.5 per cent margin of error." Take a close look at what the "public" — our patients, those who we say we are designing this health care

system for — want us to do in this legislative session.

When you ask these patients of ours the question, "Should people have the right to receive medical treatment, regardless of their ability to pay?," then 93% of them answer, "Yes."

To me, that translates into a feeling that health care is a "right," given. When you pose to them the question, "Should the State provide an affordable insurance product for the one million low income workers who do not have any insurance coverage?" and then following this the question, "Should the State make available an insurance product for Georgia residents who cannot obtain insurance due to a pre-existing medical condition?," then 78% answer "Yes" to the former and 83% answer "Yes" to the latter.

Now, as best I can translate those answers they mean that it is the responsibility of the State, of government, to devise a plan, pass a statute, mandating insurance coverage of some kind for everyone, healthy or not, and beyond this that such an "insurance product" must be affordable to those of limited means. The crunch comes when you ask our patients the question, "Are you personally willing to pay more taxes to support programs covering health care expenses for those unable to pay?" At that point 31% say "No" and yet 65% say "Yes." One can put a lot of interpretations on those answers but one is that the public wants health care available to everyone and that most of them are willing to pay more for it even to the degree that it cares for those unable to pay their own way.

What, however, is the responsibility of the politicians themselves — specifically of County Government — to shoulder the problem of this financial burden? To the question, "Should every county in Georgia be required to contribute to the health care cost of its own residents who are poor?," 83% gave an affirmative answer. Finally, the "ethics" of the issue was touched on in this survey when the question was asked of our patients, "Should health care services be rationed to selected individuals or groups in order to reduce cost?" To this query, and I believe there is a message here, 26% of the respondents felt that "rationing" would be appropriate; 67% said "No."

And so it would seem that those whom we serve, the "patient" public, have said that we all should have a "right" to a yet undefined level of medical attention to our health — that reimbursement for that care, if not reasonably available from personal savings, should be provided by a combination of across-the-board taxation and governmental participation — and finally of certain significance is the suggestion that we need to give some thought to paying more attention to those treatment modalities in certain areas where cost of treatment relates in an effective manner to results and to quality of life. In essence, that we should at least begin to pay more attention to "rationing" of health care in certain instances.

Well, there we have it. Simple, no? All we have to do this year at the Annual Session

of the Georgia Legislature is "make a few laws" which will with equity and fairness devise a health care system — or improve or change the one we now live with — which will:

- Care for all
- At a reasonable cost
- Ration the "care" to those who most need it
- Spread the cost as widely as possible
- Not raise our own taxes.

It reminds me of my good friend Henry Randall's description of "progress" when they were talking of putting our Marietta "loop highway" through his peaceful rural homestead. "Progress," Henry said, "is when the new highway goes through someone else's front yard."

Well, it will be tough. Rough sledding as they say. Tough and rough to gain consensus among all these various parties. These "players" in the game. But, "come hell or high water" a "consensus" will be gained. That, you see, is what a legislative session is all about. The arriving at some point in time, and often at the last minute, when we all agree that this for the present time is the best that can be done. And I for one would pray, although Henry Augustus Mencken thought such was a waste of time and energy, that it will indeed be a "consensus" —

- Devoid of thoughts of personal gain
- Suffused with a devout and honest desire to perfect the "system"
- Motivated in some significant way by attention to what the people we are legislating for really want.

CRU

MARCH 1991

- 1-2 — *Augusta: Flexible Fiberoptic Sigmoidoscopy.* Category 1 credit. Contact Div. of Cont. Ed., MCG, Augusta 30912-1400. PH: 404/721-3967.
- 2-9 — *Snowmass, CO: Sixteenth Annual Snow Job in Gynecology and Obstetrics.* Category 1 credit. Contact Office of CME, Emory Univ. Sch. of Med., 1440 Clifton Rd., Atlanta 30322. PH: 404/727-5695.
- 11-15 — *Atlanta: Modern Methods of Diagnosing and Treating Diabetes Mellitus and Its Complications.* Category 1 credit. Contact Office of CME, Emory Univ. Sch. of Med., 1440 Clifton Rd., Atlanta 30322. PH: 404/727-5695.
- 11-16 — *Atlanta: 26th Annual Family Practice Symposium.* Category 1 credit. Contact Div. of Cont. Ed., MCG, Augusta 30912-1400. PH: 404/721-3967.
- 22 — *Macon: 1991 Cherry Blossom Psychiatric Symposium.* Category 1 credit. Contact Robert Fore, Ed.D., Division of CME, 777 Hemlock St., Macon 31201. PH: 912/744-1061.
- 22-23 — *Augusta: Ophthalmology.* Category 1 credit. Contact Div. of Cont. Ed., MCG, Augusta 30912-1400. PH: 404/721-3967.
- 25-26 — *Atlanta: Quantitative Thallium Myocardial Tomography.* Category 1 credit. Contact Office of CME, Emory Univ. Sch. of Med., 1440 Clifton Rd., Atlanta 30322. PH: 404/727-5695.
- 25-29 — *Atlanta: Modern Methods of Diagnosing and Treating Diabetes Mellitus and Its Complications.* — Category 1 credit. Contact Office of CME, Emory Univ. Sch. of Med., 1440 Clifton Rd., Atlanta 30322. PH: 404/727-5695.

APRIL 1991

- 5-6 — *Atlanta: Pharmacology for the Anesthesiologist.* Category 1 credit. Contact Office of CME, Emory Univ. Sch. of Med., 1440 Clifton Rd., Atlanta 30322. PH: 404/727-5695.
- 7-10 — *Atlanta: Advanced Demonstrations in Percutaneous Transluminal Angioplasty XXV.* Category 1 credit. Contact Office of CME, Emory Univ. Sch. of Med., 1440 Clifton Rd., Atlanta 30322. PH: 404/727-5695.
- 15-16 — *Atlanta: TC-99M Myocardial Spect.* Category 1 credit. Contact Office of CME, Emory Univ. Sch. of Med., 1440 Clifton Rd., Atlanta 30322. PH: 404/727-5695.
- 15-19 — *Atlanta: Modern Methods of Diagnosing and Treating Diabetes Mellitus and Its Complications.* Category 1 credit. Contact Office of CME, Emory Univ. Sch. of Med., 1440 Clifton Rd., Atlanta 30322. PH: 404/727-5695.
- 17-19 — *Atlanta: Nutrition and Cancer.* Category 1 credit. Contact Office of CME, Emory Univ. Sch. of Med., 1440 Clifton Rd., Atlanta 30322. PH: 404/727-5695.
- 20-21 — *Augusta: Current Concepts in Carnitine Research.* Category 1 credit. Contact Div. of Cont. Ed., MCG, Augusta 30912-1400. PH: 404/721-3967.
- 26-28 — *Augusta: Frontiers in Nutrition.* Category 1 credit. Contact Div. of Cont. Ed., MCG, Augusta 30912-1400. PH: 404/721-3967.
- 27-28 — *Augusta: Pathology Symposium.* Category 1 credit. Contact Div. of Cont. Ed., MCG, Augusta 30912-1400. PH: 404/721-3967.
- 29-3 May — *Atlanta: Modern Methods of Diagnosing and Treating Diabetes Mellitus and*

Its Complications. Category 1 credit. Contact Office of CME, Emory Univ. Sch. of Med., 1440 Clifton Rd., Atlanta 30322. PH: 404/727-5695.

29-4 May — *Augusta: 26th Annual Family Practice Symposium.* Category 1 credit. Contact Div. of Cont. Ed., MCG, Augusta 30912-1400. PH: 404/721-3967.

MAY 1991

- 9-12 — *Atlanta: Second Conference on International Travel Medicine.* Category 1 credit. Contact Office of CME, Emory Univ. Sch. of Med., 1440 Clifton Rd., Atlanta 30322. PH: 404/727-5695.
- 13-17 — *Atlanta: Modern Methods of Diagnosing and Treating Diabetes Mellitus and Its Complications.* Category 1 credit. Contact Office of CME, Emory Univ. Sch. of Med., 1440 Clifton Rd., Atlanta 30322. PH: 404/727-5695.

JUNE 1991

- 3-7 — *Atlanta: Modern Methods of Diagnosing and Treating Diabetes Mellitus and Its Complications.* Category 1 credit. Contact Office of CME, Emory Univ. Sch. of Med., 1440 Clifton Rd., Atlanta 30322. PH: 404/727-5695.
- 17-22 — *Augusta: 22nd Annual Internal Medicine Symposium.* Category 1 credit. Contact Div. of Cont. Ed., MCG, Augusta 30912-1400. PH: 404/721-3967.
- 21-23 — *Augusta: Daily Anesthetic Challenges.* Category 1 credit. Contact Div. of Cont. Ed., MCG, Augusta 30912-1400. PH: 404/721-3967.
- 27-30 — *Augusta: Hematology and Oncology.* Category 1 credit. Contact Div. of Cont. Ed., MCG, Augusta 30912-1400. PH: 404/721-3967.

Dear Editor,

I have been meaning to write the Board of the MAG about your Journal. About three years ago, I felt we didn't have enough information about our organization, its membership, and its problems. I even offered to alter and correct this problem. In their infinite wisdom, they acted rationally and got you, and thanked me for my interest. I must say they made a good choice.

I think this Journal is now "tops." It may be a little arty and intellectual, but it is a challenging piece of work. You and your staff have really turned a "sow's ear into a silk purse" or in a more chemistry oriented phrase, you were an "alchemist" who turned paper and ink into gold. Most of us perform alchemy by turning gold into trash.

The purpose of this letter, Mr. Editor, is to say I really enjoy your Journal, it is really neat.

Yours truly,

Marvyn D. Cohen, M.D.

Pediatrics and Allergy, Columbus

Dear Editor,

This is to express thanks and to congratulate you on the outstanding new MAG Directory.

It is very informative and has an excellent format. Keep up the good work.

Best wishes for a Happy Holiday Season.

Sincerely yours,

Milton I. Johnson, M.D.

Family Practitioner, Macon

Dear Editor,

It was a pleasure again to read an editorial [November, 1990, *JMAG*, p. 819] by our former Atlantan, Mr. Eugene Patterson. It is good to see that he is still alert and still the master of the innuendo and half truth. His article on health insurance cost was nothing more than a plug for national health insurance again, this time using the insurance industry as his reason.

Coming from a small town and being a country doctor I do not have the literary skills that our editor and Mr. Patterson have. But in a small town you learn "horse sense," and it so happens the only publication I have offered in your magazine was a summary of the Canadian health care system after I spent a week there studying it. Believe me, it ain't at all like he pictured it.

He mentioned that there were "downside" points but failed to mention the largest one — the loss of the best medical minds in Canada as they emigrate to the United States and other medically free climates. He does mention rationing however, a subject few Americans will tolerate.

In the poll he mentions it is hard to comprehend that 98% of his readers voted for the Canadian plan, even if coerced. Most polls show that the general populace wants the government to furnish everything, including health care, until a cost tag is part of it and then the majority back off and say no. This is usually true with national health insurance.

I'll admit that I'm one of the citizens that think the federal government should basically perform two services — defend the coast and deliver the mail — and that they are only doing one of these satisfactorily.

I may be an extremist but no more than the talented Mr. Patterson.

John P. Heard, M.D.

Family Practitioner, Decatur

QUOTES

The difference between a person who lacks ideals and one with ideals is the difference between the person who guides his life by what he sees and knows and can touch with his hands, and the person who has enough of the visionary in him to adopt as his guide a dream which has not yet come true and perhaps may never come true. The difference between the person who never gets his eyes off the material things about him and the person who is always looking out to the very limits of his vision even when he knows he never can reach the distant country he dimly describes.

B. C. FORBES

The two sexes mutually corrupt and improve each other.

MARY WOLLSTONECRAFT

A Vindication of the Rights of Woman, VIII 179

New Recommendations for the Prevention of Bacterial Endocarditis

Robert C. Schlant, M.D.

FOR A NUMBER OF YEARS, the American Heart Association has periodically published recommendations for the prevention of bacterial endocarditis. Recently, these recommendations were updated in an article published in the *Journal of the American Medical Association*.¹ This article will highlight some of the main points and new changes in these new recommendations. It should be emphasized that these recommendations are guidelines to supplement physicians in the exercise of their clinical judgment and are not intended as standard of care for all cases. It is also worthy of emphasizing that there are no adequate, controlled clinical trials of antibiotic regimens for the prevention of bacterial endocarditis in many circumstances.

Table 1 presents selected cardiac conditions in which endocarditis prophylaxis is recommended as well as selected conditions in which routine endocarditis prophylaxis is not recommended. It is recommended that patients with poor

It should be emphasized that antibiotic prophylaxis is recommended in patients with certain cardiac conditions for all dental procedures likely to cause gingival bleeding, including routine professional cleaning.

dental hygiene of periodontal disease who are at risk for developing bacterial endocarditis should have chlorhexidine painted on isolated and dried gingiva 3-5 minutes prior to tooth extraction and that the gingival sulcus should be irrigated with chlorhexidine prior to tooth extrac-

tion. This application of chlorhexidine is as an adjunct to antibiotic prophylaxis, especially in patients who are at high risk and/or have poor dental hygiene.

The dental or surgical procedures for which endocarditis prophylaxis is recommended are shown in Table 2. It should be emphasized that antibiotic prophylaxis is recommended in patients with certain cardiac conditions for all dental procedures likely to cause gingival bleeding, including routine professional cleaning. In patients at risk and on whom a series of dental procedures are planned, it may be useful to have an interval of 7 days between procedures in order to reduce the potential for the emergence of resistant strains of organisms.

The recommended standard antibiotic regimen for patients who are at risk is indicated in Table 3. In contrast to the last recommendations in 1984, amoxicillin is now the recommended standard prophylactic oral antibiotic. This is pri-

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marily because it is better absorbed and provides higher and more sustained serum levels than penicillin V, which is still acceptable. It should be noted that oral amoxicillin is now recommended as standard prophylaxis for patients who have prosthetic heart valves and other high risk patients. Thus, routine use of intramuscular intravenous antibiotics for such patients is no longer routinely recommended.

Tables 4 and 5 present alternative prophylactic regimens for dental, oral, or upper respiratory tract procedures and for genitourinary/gastrointestinal procedures for special subgroups of patients.

The principal changes in the new recommendations include shorter periods of antibiotic coverage and increased use of oral antibiotics. These changes should improve compliance and decrease cost while maintaining satisfactory prophylaxis.

Individuals who are taking daily oral penicillin for the secondary prevention of rheumatic fever or for other purposes, should receive erythromycin or another of the alternative regimens instead of amoxicillin for endocarditis prophylaxis. Individuals who are on anticoagulation therapy should not receive intramuscular injections of antibiotics, while patients with markedly compromised renal function may require lower doses of gentamicin or vancomycin if they are selected. For patients undergoing open heart surgery, the antibiotic

TABLE 1 — Cardiac Conditions*

Endocarditis Prophylaxis Recommended
 Prosthetic cardiac valves, including bioprosthetic and homograft valves
 Previous bacterial endocarditis, even in the absence of heart disease
 Most congenital cardiac malformations
 Rheumatic and other acquired valvular dysfunction, even after valvular surgery
 Hypertrophic cardiomyopathy
 Mitral valve prolapse with valvular regurgitation

Endocarditis Prophylaxis Not Recommended
 Isolated secundum atrial septal defect
 Surgical repair without residua beyond 6 mo. of secundum atrial septal defect, ventricular septal defect, or patent ductus arteriosus
 Previous coronary artery bypass graft surgery
 Mitral valve prolapse without valvular regurgitation**
 Physiologic, functional, or innocent heart murmurs
 Previous Kawasaki disease without valvular dysfunction
 Previous rheumatic fever without valvular dysfunction
 Cardiac pacemakers and implanted defibrillators

*This table lists selected conditions but is not meant to be all-inclusive

**Individuals who have a mitral valve prolapse associated with thickening and/or redundancy of the valve leaflets may be at increased risk for bacterial endocarditis, particularly men who are 45 years of age or older.

Source: JAMA 1990;265:2919-2922. Copyright 1990, American Medical Association.

TABLE 2 — Dental or Surgical Procedures*

Endocarditis Prophylaxis Recommended
 Dental procedures known to induce gingival or mucosal bleeding, including professional cleaning
 Tonsillectomy and or adenoidectomy
 Surgical operations that involve intestinal or respiratory mucosa
 Bronchoscopy with a rigid bronchoscope
 Sclerotherapy for esophageal varices
 Esophageal dilatation
 Gallbladder surgery
 Cystoscopy
 Urethral dilatation
 Urethral catheterization if urinary tract infection is present**
 Urinary tract surgery if urinary tract infection is present**
 Prostatic surgery
 Incision and drainage of infected tissue**
 Vaginal hysterectomy
 Vaginal delivery in the presence of infection**

Endocarditis Prophylaxis Not Recommended***
 Dental procedures not likely to induce gingival bleeding, such as simple adjustment of orthodontic appliances or fillings above the gum line
 Injection of local intraoral anesthetic (except intraligamentary injections)
 Shedding of primary teeth
 Tympanostomy tube insertion
 Endotracheal intubation
 Bronchoscopy with a flexible bronchoscope, with or without biopsy
 Cardiac Catheterization
 Endoscopy with or without gastrointestinal biopsy
 Caesarean section
 In the absence of infection for urethral catheterization, dilatation and curettage, uncomplicated vaginal delivery, therapeutic abortion, sterilization procedures, or insertion or removal of intrauterine devices

*This table lists selected procedures but is not meant to be all-inclusive.

**In addition to prophylactic regimen for genitourinary procedures, antibiotic therapy should be directed against the most likely bacterial pathogen.

***In patients who have prosthetic heart valves, a previous history of endocarditis, or surgically constructed systemic-pulmonary shunts or conduits, physicians may choose to administer prophylactic antibiotics even for low-risk procedures that involve the lower respiratory, genitourinary, or gastrointestinal tracts.

Source: JAMA 1990;264:2919-2922. Copyright 1990, American Medical Association.

TABLE 3 — Recommended Standard Prophylactic Regimen for Dental Oral, or Upper Respiratory Tract Procedures in Patients Who Are at Risk*

Drug	Dosing Regimen**
Standard Regimen	
Amoxicillin	3.0g orally 1 h before procedure; then 1.5g 6 h after initial dose
Amoxicillin/Penicillin-Allergic Patients	
Erythromycin or	Erythromycin ethylsuccinate, 800mg, or erythromycin stearate, 1.0g, orally 2 h before procedure; then half the dose 6 h after initial dose
Clindamycin	300mg orally 1 h before procedure and 150mg 6 h after initial dose

*Includes those with prosthetic heart valves and other high-risk patients
**Initial pediatric doses are as follows: amoxicillin, 50mg/kg; erythromycin ethylsuccinate or erythromycin stearate, 20mg/kg; and clindamycin, 10mg/kg. Follow-up doses should be one half the initial dose. Total pediatric dose should not exceed total adult dose. The following weight ranges may also be used for the initial pediatric dose of amoxicillin: < 15kg, 750mg; 15 to 30kg, 500mg; and > 30kg, 3000mg (full adult dose).
Source: JAMA 1990;264:2919-2922. Copyright 1990, American Medical Association.

TABLE 5 — Regimens for Genitourinary/Gastrointestinal Procedures

Drug	Dosage Regimen*
Standard Regimen	
Ampicillin, gentamicin, and amoxicillin	Intravenous or intramuscular administration of ampicillin, 2.0g plus gentamicin, 1.5mg/kg (not to exceed 80mg), 30 min. before procedure; followed by amoxicillin, 1.5g orally 6 h after initial dose; alternatively, the parenteral regimen may be repeated once 8 h after initial dose
Ampicillin/Amoxicillin/Penicillin-allergic Patient Regimen	
Vancomycin and gentamicin	Intravenous administration of vancomycin, 1.0g, over over 1 h plus intravenous or intramuscular administration of gentamicin, 1.5mg/kg (not to exceed 80mg), 1 h before procedure; may be repeated once 8 h after initial dose
Alternate Low-Risk Patient Regimen	
Amoxicillin	3.0g orally 1 h before procedure then; 1.5g 6 h after initial dose

* Initial pediatric doses are as follows: ampicillin, 50mg/kg; amoxicillin, 50mg/kg; gentamicin, 2.0mg/kg; and vancomycin, 20mg/kg. Follow-up doses should be half the initial dose. Total pediatric dose should not exceed total adult dose.
Source: JAMA 1990; 264:2919-2922. Copyright 1990, American Medical Association.

TABLE 4 — Alternate Prophylactic Regimens for Dental, Oral, or Upper Respiratory Tract Procedures in Patients Who Are At Risk

Drug	Dosing Regimen*
Patients Unable to Take Oral Medications	
Ampicillin	Intravenous or intramuscular administration of ampicillin 2.0g, 30 min. before procedure; then intravenous or intramuscular administration of ampicillin, 1.0g, or oral administration of amoxicillin, 1.5g, 6 h after initial dose
Amoxicillin/Amoxicillin/Penicillin-Allergic Patients Unable to Take Oral Medications	
Clindamycin	Intravenous administration of 300mg 30 min. before procedure and an intravenous or oral administration of 150mg 6 h after initial dose
Patients Considered High Risk and Not Candidates for Standard Regimen	
Ampicillin, gentamicin and amoxicillin	Intravenous or intramuscular administration of ampicillin, 2.0g, plus gentamicin, 1.5mg/kg (not to exceed 80mg), 30 min. before procedure; followed by amoxicillin, 1.5g, orally 6 h after initial dose; alternatively, the parenteral regimen may be repeated 8 h after initial dose
Ampicillin/Amoxicillin/Penicillin-Allergic Patients Considered High Risk	
Vancomycin	Intravenous administration of 1.0g over 1 h, starting 1 h before procedure; no repeat dose necessary

* Initial pediatric doses are as follow: ampicillin, 50mg/kg; clindamycin, 10mg/kg; gentamicin, 2.0mg/kg; and vancomycin 20mg/kg. Follow-up doses should be one half the initial dose. Total pediatric dose should not exceed total adult dose. No initial dose is recommended in this table for amoxicillin (25mg/kg is the follow-up dose).
Source: JAMA 1990; 264:299-2922. Copyright 1990, American Medical Association.

selected should be based upon the bacterial susceptibility pattern at the individual hospital. In general, a "first-generation" cephalosporin is most often used. In general, prophylaxis should be started shortly before surgery, repeated during prolonged surgery, and continued for 24-36 hours postoperatively.

All physicians deciding on prophylaxis or antibiotic prophylaxis for bacterial endocarditis are urged to carefully study the full original article in JAMA.¹ The principal changes in the new recommendations include shorter periods of antibiotic coverage and increased use of oral antibiotics. These changes should improve compliance and decrease cost while maintaining satisfactory prophylaxis.

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Cholesterol Testing and Standardization

Gerald R. Cooper, M.D., Ph.D., Gary L. Myers, Ph.D.

NUMEROUS EPIDEMIOLOGIC and clinical investigations have demonstrated that elevated serum total cholesterol levels are a major risk factor for coronary heart disease (CHD). Researchers conducting the Framingham Heart Study have observed that the incidence of CHD clinical symptoms greatly increases as serum total cholesterol levels rise in subjects with serum values above 200 mg/dL (5.17 mmol/L).¹ Tissue studies indicate a direct relationship between the level of serum cholesterol and the quantity of plaques on coronary vessels.² Total serum cholesterol, therefore, has been demonstrated scientifically to be one of the major risk factors for coronary heart disease. This scientific evidence led to the formation of an expert committee of the World Health Organization whose task was to determine whether increased levels of cholesterol also cause coronary artery disease (CAD).³

Results from primary and secondary prevention trials have estab-

In this discussion, procedures for controlling errors from collection of the sample and for standardizing the analytical procedure are covered.

lished the efficacy of both dietary and pharmacologic interventions to reduce the incidence of coronary heart disease by lowering serum total cholesterol levels. Efficacy of cholesterol-lowering diets varies with the serum cholesterol level.⁴ Intervention with single or multiple drugs can remarkably reduce serum cholesterol levels⁵ and appearance

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of new lesions in human coronary arteries.⁶ Clinical trials across the world have documented that lowering serum total cholesterol levels decreases the rate of and mortality from coronary heart disease.^{2,7,8}

Follow-up studies of clinical trials reveal that lowering of serum cholesterol levels requires many years to influence the quality and length of life. About 10.5 years after completion of the Multiple Risk Factors Intervention Trial (MRFIT), follow-up evaluations revealed a 24% reduction in the death rate from acute myocardial infarction in men who received special intervention.⁹ Mortality rates were 10.6% lower for coronary heart disease and 7.7% lower for all causes in the men who received special intervention. This is in contrast to findings of no significant difference at the conclusion of the trial. In addition, 15-year mortality examination of Coronary Drug Project patients found long-term benefit with niacin treatment.¹⁰ Examination of the 10-year incidence of death from cardiovas-

cular disease in men in three cohorts (1950, 1960, and 1970) indicated the 10-year cumulative mortality in the 1970 cohort was 43% less than in the 1950 cohort and 37% less than in the 1960 cohort.¹¹ The MRFIT and Framingham follow-up studies conclude that what a person does today to decrease elevated serum cholesterol levels and minimize influence of other risk factors determines the quality and length of life 10 years later.^{9, 11}

Coronary heart disease develops secretly and silently. Clinical manifestations often do not occur until elevated plaques cause about 60% narrowing of the vessel. Measurement of total serum cholesterol and detection of other risk factors for CAD are therefore essential for early detection of potentially serious CAD. Increased risk of fatal CAD occurs in persons with ranges of serum total cholesterol values previously interpreted as "safe" or "normal." Consequently, interpretation of an individual patient's total cholesterol result should not be based on the conventional range of reference values, but on the more sensitive critical physiologic cutpoints. The National Cholesterol Education Program's Adult Treatment Panel responded to this need by developing simplified uniform cutpoints for men and women.¹² The Adult Treatment Panel defined total cholesterol concentrations of less than 200 mg/dL (5.17 mmol/L) as *desirable*; between 200 and 239 mg/dL (5.17-6.18 mmol/L) as *borderline-high*; and greater than 240 mg/dL (6.21 mmol/L) as *high* blood cholesterol. These cutpoints were designed to classify patients according to serum total cholesterol levels for tentative risk considerations. Definitive risk to CAD was assigned to cutpoints of low-density lipoprotein cholesterol and detection of other risk factors.

Correct classification of patients by total cholesterol cutpoints de-

Increased risk of fatal CAD occurs in persons with ranges of serum total cholesterol values previously interpreted as "safe" and "normal."

mands previously unheard of precision and accuracy of analytical measurements and strict adherence to proper guidelines for collection of samples.¹³ Control of biologic sources of variation is also very important in minimizing sources of measurement error;¹³⁻¹⁵ however, in this discussion, we will only cover procedures for controlling errors from collection of the sample and for standardizing the analytical procedure.

Sample Collection Problems and Standardization

Prominent sources of variation in total cholesterol results can arise from fasting, posture, collection tubes, anticoagulants, venous occlusion, venous-capillary differences, and exercise before sample collection.¹³

Fasting. Fasting is not considered necessary for total cholesterol measurements, since the average of total cholesterol measurements for a group of patients shows insignificant variations during the day. Individuals, however, can be grouped into *slightly increased*, *not increased*, and *slightly decreased* total cholesterol groups that change less than 5% during the day.¹⁶ For best results, serum should be collected from a patient at the same time of day and at the same time after a meal.

Posture. Whether the patient is lying down, sitting, or standing influences greatly the serum total

cholesterol result. Changing position from lying down to standing can cause a difference of 10% to 15% in the total cholesterol serum result.¹⁷ The sympathetic nervous system influences postural effect on the lipid levels as well as blood volume changes.¹⁸ The large postural effect on the measurement of total cholesterol has caused some hospitals to use different reference values for clinics and hospital patients. The patient should remain in the same position for at least 5 minutes before the blood sample is collected.

Collection Tubes and Anticoagulants. Contaminants in or unusual absorption of cholesterol on internal surfaces of the collection tube can cause errors in cholesterol results.¹³ Before 1990, the use of 1 mg of EDTA per liter decreased the level of total cholesterol in plasma by about 3%, but recently the amount of EDTA in blood collection tube has been 50% greater than when the 3% value was established and has resulted in plasma total cholesterol levels that are about 4.7% lower than those in serum samples.¹⁹ Blood collection tube should always be completely filled when plasma will be separated.

Venous Occlusion. Venous occlusion with a tourniquet applied up to 1 minute has no detectable effect on serum lipids.¹³ The tourniquet should be released as soon as the blood begins to flow into the collection tube.

Venous-Capillary Differences. Researchers agree that venous-capillary differences exist, but they disagree about relation, degree, and sources of individual variation.²⁰⁻²² Therefore, vascular source of specimen should be recorded.

Exercise. Since posture and exercise are interrelated, subject should correct dehydration, rest, and be in selected posture position for at least 15 minutes before collection of sample if they had intense exercise immediately before arrival.

Analytical Problems and Standardization. The major analytical problems today arise from improper calibration of some analytical and screening procedures and matrix error from reference materials.^{28, 29} These are problems inherent with enzymatic analytical procedures that are applied to high technology instruments, and they must be resolved in order for laboratories to provide total cholesterol results that meet the National Cholesterol Education Program's accuracy goal of 3% bias when compared with the National Reference System for Cholesterol.³⁰ The National Reference System for Cholesterol (NRS/CHOL) was established by the National Committee for Clinical Laboratory Standards to promote greater accuracy in blood cholesterol measurements. It is comprised of a National Institute of Standards and Technology (NIST) definitive method,³¹ a Centers for Disease Control (CDC) reference method,³² and an NIST-certified pure cholesterol standard (NIST/SRM 911b), along with certified serum-based secondary reference materials.

These matrix effects complicate standardization of cholesterol measurements because different methods may produce different results for the same reference material. The current recommendation for circumventing the problem of matrix effects is to complete a direct comparison of the test method with the cholesterol reference method by using split "fresh" patient specimens.

To facilitate access to the NRS/CHOL by clinical laboratories and manufacturers, CDC established a national network of cholesterol reference method laboratories.³³ A list of participating network laboratories and contact persons is presented in Table 1.

Physicians can be assured they receive high quality cholesterol results by asking the laboratory director whether the cholesterol an-

TABLE 1 — National Reference Method Laboratory Network Participating Laboratories	
State Laboratory of Hygiene University of Wisconsin Center for Health Sciences 465 Henry Mall Madison, WI 53706 <i>Contact Person:</i> David Hassemer, M.S. Telephone: (608) 263-3692	Baylor College of Medicine Mail Station F-701, Room F-740 6565 Fannin Houston, TX 77030 <i>Contact Person:</i> Charlie Rhodes Telephone: (713) 790-4351
Pennsylvania State Department of Health Bureau of Laboratories Division of Chemistry and Toxicology P.O. Box 500 Exton, PA 19341-0500 <i>Contact Person:</i> Irene Daza Telephone: (215) 363-8500	The Cleveland Clinic Foundation Department of Biochemistry, L-11 9500 Euclid Avenue Cleveland, OH 44195 <i>Contact Person:</i> Joan David Waletzky Telephone: (216) 444-8301
Biochemical Epidemiology and Lipid Research Core (BELRC) Laboratory Division of Epidemiology School of Public Health Stadium Gate 27 611 Beacon Street, S.E. Minneapolis, MN 55455 <i>Contact Person:</i> John Belcher, Ph.D. Veronica Hill Telephone: (612) 624-2183	New York State Department of Health Wadsworth Center for Laboratories and Research Empire State Plaza Albany, NY 12201 <i>Contact Person:</i> Robert Rej, Ph.D. Telephone: (518) 474-6814
Northwest Lipid Research Center Core Laboratory 2121 N 35th Street Seattle, WA 98103 <i>Contact Person:</i> Santica Marcovina, Ph.D. Telephone: (206) 685-3327	Washington University School of Medicine Lipid Research Center 4566 Scott Avenue, Box 8046 St. Louis, MO 63110 <i>Contact Person:</i> Thomas Cole, Ph.D. Telephone: (314) 362-3522
USDA Human Nutrition Research Center on Aging at Tufts University 711 Washington Street, Room 501 Boston, MA 02111 <i>Contact Person:</i> Judy McNamara Telephone: (617) 556-3104	<i>International Participant:</i> Rotterdam University Hospital "Dijkzigt", Depart. of Clin. Chem. Lipid Reference Laboratory 3015 G D Rotterdam The Netherlands <i>Contact Person:</i> Geert J.M. Boerma, Ph.D. Telephone: 033-01-4633493/4633543

alytical system has been validated, either by the manufacturer or laboratory, through a national reference method laboratory.

Matrix problems are present also in some desktop analysers. When tested by experienced laboratorians, some studies indicate the so-called physician's office or screening analyzers meet public screening recommendations of the National Cholesterol Education Program. Reports from the field, however, reveal that problems occur when these analyzers are in the hands of inexperienced and untrained users. Screening programs and physicians deciding to use

desktop analyzers should follow the recommendations of the NHLBI:

- (1) Meet NCEP performance standards.
- (2) Have operators attend one day of class and undergo hands-on instruction.
- (3) Ensure that control samples meet limits of performance over a 2-week period.
- (4) Use only analyzers that meet NCEP performance standards.
- (5) Make daily comparisons on split samples with a certified laboratory traceable to the NRS/CHOL.
- (6) Collect and handle samples in accordance with current Na-

tional Institutes of Health and CDC guidelines for the prevention of infection in health care workers.

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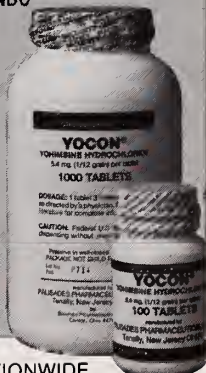
Dosage and Administration: Experimental dosage reported in treatment of erectile impotence.^{1,3,4} 1 tablet (5.4 mg) 3 times a day, to adult males taken orally. Occasional side effects reported with this dosage are nausea, dizziness or nervousness. In the event of side effects dosage to be reduced to 1/2 tablet 3 times a day, followed by gradual increases to 1 tablet 3 times a day. Reported therapy not more than 10 weeks.³

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The Exercise Standards from the American Heart Association — A Commentary

Gerald F. Fletcher, M.D.

CONSIDERABLE EVIDENCE exists to support that regular dynamic physical activity can increase cardiovascular functional capacity, aid efforts in reducing risk factors for coronary disease, and likely play a favorable role in both primary and secondary prevention of cardiovascular disease. A number of studies and observations in recent years support this belief, and current studies and observations underway will likely enhance this support for the benefits of physical activity.¹⁻³ The Exercise Standards published in the December, 1990, issue of *Circulation* are an update and revision of previous standards to address exercise testing and training of normal, healthy individuals, and those with cardiovascular disease.

The purpose of this commentary is to quote, paraphrase, and highlight the key issues, emphasize new and different trends, and address and explain some new standards that may be of special interest (and perhaps of concern) to health professionals, the legal profession,

Symptoms and signs of ischemia induced by exercise testing are clinically important, and their combinations influence interpretation.

the insurance industry, and the public in general who may use these standards.

Exercise Testing

Dynamic exercise is preferred for testing because it imposes a volume rather than a pressure stress on the heart, and it can be graduated. However, most activities usually combine, in varying degrees, both types of exercise. An impor-

tant basic principle of exercise physiology is that oxygen consumption ($\dot{V}O_2$) and myocardial oxygen consumption have distinct determinants and methods of measurement or estimation. Although they are directly related, this relation can be altered, for example, by training and Beta-blockers. Each is important, both in the testing and training setting. Heart rate response to maximum dynamic exercise is dependent on numerous factors, but particularly age and health. Although a regression line of 220-age is fairly reproducible, the scatter around this line is sizable (1 SD equals 12 beats/min), making age-predicted maximum heart rate relatively limited for clinical purposes. Therefore, exercise testing is necessary to properly designate a maximal heart rate for clinical application. Exercise testing should be done under supervision of a physician who is appropriately trained to conduct such tests and to interpret the test results. However, the degree of supervision (physician,

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nurse, or exercise specialist) needed for a given test can be determined by the clinical status of the patient being tested.

Electrode placement for exercise testing affects ST segment slope and amplitude. The various placements do not result in comparable waveforms for analysis. For comparison to the resting 12-lead recording, arm and leg electrodes should be moved to the wrists and ankles, with the patient in the supine position. Complete 12-lead tracings during exercise are not needed in many individuals with normal resting ECGs. However, they are necessary in patients with arrhythmias, Q waves consistent with myocardial damage, or symptoms suggestive of coronary spasm, and when evaluating severity of disease in patients with known coronary artery disease (CAD).

It is important to adjust or select the treadmill or cycle ergometer protocol to the patient being tested. The optimum protocol is 6-12 minutes. Exercise capacity should be reported in metabolic equivalents ($3.5 \text{ ml/kg/min of } \dot{V}O_2 \text{ consumed} = 1 \text{ MET}$) (METs) rather than minutes. Symptoms and signs of ischemia induced by exercise testing are clinically important, and their combinations influence interpretation.

An exercise capacity of 5 METs or less is associated with a poor prognosis in patients less than 65 years old. In the immediate post-myocardial infarction period, 5 METs is the usual exercise limit; 10 METs is considered an adequate level of training. In a patient with ischemia, 10 METs is associated with no improvement in survival with coronary artery bypass surgery (CABS) versus medical management. An exercise capacity of 13 METs indicates a good prognosis despite abnormal exercise test responses. Only well-trained aerobic athletes can achieve 20 METs. Ejection fraction does not necessarily

The nonselective use of exercise testing for screening apparently healthy individuals should be discouraged because of the poor predictive value of minimum (1 mm) ST segment depression.

predict exercise capacity.

A drop in systolic blood pressure below standing rest during exercise is associated with increased risk in patients with a prior myocardial infarction or myocardial ischemia. Abnormalities of exercise capacity, systolic blood pressure, and heart rate response to exercise may be due to either left ventricular dysfunction or ischemia.

The probability and severity of CAD are directly related to the degree of J-junction depression and are inversely related to the slope of ST segment (i.e., the greater the depression and the downslope, the more likely and more severe CAD). Severe transmural ischemia is the mechanism for ST segment elevation during exercise in patients without prior myocardial infarction or diagnostic Q waves on the resting ECG. It locates the site of ischemia in contrast to ST depression, which does not.⁴

In patients with variant angina, ST segment elevation occurs during spontaneous anginal episodes and frequently at rest. During exercise, ST segment elevation has been reported in about 30% of these patients. A reversible thallium-201 perfusion defect usually corresponds to the site of ST elevation. Many patients with ST elevation have coexistent ST segment depression in other leads and ventricular arrhythmias appear to be more fre-

quent in patients with ST elevation.

A multitude of factors affect the R wave amplitude response to exercise, and the response does not have diagnostic significance.

Sensitivity and specificity are inversely related, affected by the population tested, and determined by the choice of a cut point or discriminant value.

In postmyocardial infarction patients, clinical judgment identifies patients at highest risk. ST changes are not as predictive as an abnormal systolic blood pressure response (early drop of 20 mm Hg or more below baseline or a flat response for the duration of the test) or poor exercise capacity. Exercise-induced ST segment depression appears to be associated with increased risk in patients without diagnostic Q waves.⁵

The definition of exercise-induced hypotension is of crucial importance in the evaluation of the exercise test response. A drop in systolic blood pressure *below preexercise values* is the most onerous criterion; a drop of 20 mm Hg or more without a fall below preexercise values has little, if any, predictive value. Exercise-induced hypotension can be related to either left ventricular dysfunction (as reflected by myocardial infarction status) or ischemia. Exercise-induced hypotension that is not associated with either of these factors appears to be benign.

In patients with stable CAD, studies comparing angiographic findings, cardiac events, and the differential outcome of CABG compared with medical therapy reveal the exercise test to have prognostic power. These studies indicate that patients with marked degrees of ST segment depression (i.e., greater than 2 mm, in multiple leads, and prolonged into recovery) accompanied by poor exercise capacity, exertional hypotension, premature ventricular contraction

angina, or all of the above are at increased risk of having triple-vessel or left main disease and a poor prognosis.

The nonselective use of exercise testing for screening apparently healthy individuals should be discouraged because of the poor predictive value of minimum (1 mm) ST segment depression. Unfortunately, this abnormal response may lead to psychologic and vocational disability as well as unnecessary medical expense and risk. In these individuals, the test is most helpful for motivational purposes and for setting exercise prescriptions. Only combinations of other abnormal responses and 2 mm ST depression should be considered predictors of increased risk of cardiovascular events in asymptomatic men.

There is substantial evidence to support the use of exercise testing as the first noninvasive step after medical history, physical examination, and resting ECG in the prognostic evaluation of patients with CAD. Exercise testing accomplishes both purposes of prognostic testing: it provides information about the patient's status and is helpful when making recommendations for optimum management. Some studies reveal that the value of exercise testing for risk stratification is enhanced by the addition of radio-nuclide imaging, particularly with submaximum testing after an uncomplicated myocardial infarction. Exercise test results enhance selection of patients who should undergo further evaluation, such as coronary angiography. Since the exercise test can be performed in the physician's office and provides valuable information about activity levels, response to therapy, and disability, the exercise test is the reasonable first choice for prognostic assessment. Because of its widespread use, the exercise test can have an enormous impact on cost-effective delivery of cardiovascular care.

The purpose of this commentary is to quote, paraphrase, and highlight the key issues, emphasize new and different trends, and address and explain some new standards in exercise that may be of special interest to health professionals. . . .

Exercise Training

The risks of serious complications of physical activity are highest during vigorous exercise and in individuals with heart disease. Hence, screening should ensure that cardiovascular disease is not present or that physical activity is limited to moderate intensities (walking or the equivalent) or is medically supervised.

The increase in $\dot{V}O_{2\max}$ as a result of training normal individuals is due to a higher maximum cardiac output and to greater extraction of oxygen from the systemic circulation, reflecting both central and peripheral adjustments. Submaximum heart rate is reduced after training in normal individuals, but stroke volume is increased so that cardiac output is unchanged. Greater oxidative potential in the skeletal muscles after training probably contributes to the higher $\dot{V}O_{2\max}$. Submaximum endurance is increased with training due to changes in the muscle cells, allowing more aerobic activity and providing more glycogen for anaerobic energy.

Regular physical activity is important for health maintenance.

Walking appears to be as beneficial as more vigorous activities. Some benefit is apparently derived from as little as 20 minutes of low-intensity exercise performed three times per week. However, incremental benefits appear to accrue from up to 2,000 calories per week (20 miles of walking or jogging). There is no evidence of a health benefit at more than 2,000 calories per week. Occupational activity provides adequate health benefits only when a job requires sustained activities. Regular physical activity is recommended for both men and women.

Physical activity should consist of cardiovascular exercise preceded by a warm-up period and followed by cool-down period. Calisthenics are useful for promoting strength and flexibility but probably do not contribute to cardiovascular health.

The *medical clearance stratification* enables physicians to classify individuals by activity and to give advice and options for physical activity programs. Medical clearance should include a history and physical examination to assess for evidence of cardiovascular disease and/or major coronary risk factors. Based on such data and the subject's age ($<$ or \geq 40 years), further evaluation and exercise testing may be considered.

An *activity classification* is offered to help the physician decide on activity guidelines, monitoring, and supervision required for various conditions. This activity designation pinpoints the apparently healthy, those with cardiovascular disease who are low risk, those with disease who are low risk but are unable to self-regulate their activity, those who are moderate to high risk because of their disease, and those who have unstable disease with activity restrictions.

Regular physical activity is, therefore, beneficial in the presence of cardiovascular disease if

prudent guidelines are followed. General guidelines can provide an activity prescription for apparently well individuals, and the benefits of exercise outweigh the risks when such an approach is used.

The risks of exercise for sudden cardiac arrest and myocardial infarction are higher in individuals with known heart disease who engage in vigorous physical activity such as jogging. Hence, individuals with heart disease should either exercise under medical supervision or restrict their activity to a moderate-intensity activity such as walking. Monitoring during exercise is recommended for all individuals with heart disease until tolerance of the activity has been demonstrated.

Individuals with heart disease increase their working capacities in much the same way as normal subjects. A major adjustment that is beneficial in patients with CAD is the lowering of myocardial oxygen demand, which in turn lessens ischemia. Collateral formation in the coronary arterial tree and improved myocardial performance may occur with exercise in some cases but not with regularity.

Although no reduction in frequency of myocardial infarction has been shown, regular physical activity is associated with improved survival when combined with other interventions such as diet.⁶ Other benefits include earlier discharge from the hospital and greater like-

There is substantial evidence to support the use of exercise testing as the first noninvasive step after the history, physical examination, and resting ECG in the prognostic evaluation of patients with CAD.

lihood of returning to work after myocardial infarction.

Precautions and procedures for activity programs are outlined. Symptoms and signs, types of activity, techniques of activity prescription, *guidelines for ECG monitoring*, types of supervised programs, and requirements for exercise testing must all be considered. Activities and precautions are geared to the severity of the illness.

With regard to ECG monitoring, it is specified that all low risk subjects should be monitored and supervised — usually 6-12 sessions. For moderate to high risk patients, monitoring and supervision should be provided for 6-12 sessions or more. Medical supervision entails a physician being immediately available (in the facility) for exercise classes, although the presence of a properly trained nurse in the exercise room is acceptable if the physician is not available.

Assessment for employment potential should include the patient's illness and conditions of employment. Most patients can return to work with few precautions. Cooperation with the employer is essential for optimum return to work.

It is felt that these recently published Exercise Standards⁷ provide the "state of the art" for the physician and other health professionals. They are in keeping with policies of the American Heart Association in providing current updates in science applicable to clinical practice in the area of cardiovascular health care.

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Recent Advances in the Diagnosis and Treatment of Hypertension

W. Dallas Hall, M.D.

HYPERTENSION CONTINUES to be one of the most common disorders seen in office practice. In the past few years, several advances have led to improved diagnosis and treatment. These can be summarized briefly.

Diagnosis

24-hour Ambulatory Blood Pressure Monitoring.

Improved technology has now led to the development of light weight devices that can provide about 100 automated blood pressure measurements throughout the day and night.¹ Twenty-four hour monitoring is not justified in the great majority of hypertensive patients but can be very useful in deciding about drug therapy in the 10-15% of patients who exhibit "white coat" hypertension. It is also useful in timing of drug dosage in those with "yo-yo" blood pressure levels that are very high at certain times of day (early morning, job stresses, etc.) but well controlled otherwise.

Twenty-four hour monitoring is not justified in the great majority of hypertensive patients, but can be very useful in deciding about drug therapy in the 10-15% of patients who exhibit "white coat" hypertension.

Captopril Stimulation Test for Renovascular Hypertension.

Recommendations for the use and cautious interpretation of this test were summarized in the May 1990 issue of this journal.²

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¹³¹I-metaiodobenzylguanidine (MIBG) Scan for Pheochromocytoma.

The MIBG scan is less sensitive but more specific than either the CT scan or magnetic resonance imaging.³ It is most useful for the detection of extra-adrenal pheochromocytomas or metastatic sites. The test requires several weeks for scheduled delivery of the isotope. Follow-up scans are done 3-7 days following the dose.

Treatment

The J Curve.

Some recent analyses have suggested that lowering the blood pressure too much may reverse the trend for reduced mortality associated with control of blood pressure, especially in elderly individuals.⁴ The issue remains quite controversial at this time but certainly worthy of consideration in patients who may develop increased ventricular ectopy or evidence of myocardial ischemia when blood pressure is

lowered considerably or too rapidly.

Hypertensive "Urgencies."

Patients with very high levels of blood pressure but no symptoms or evidence of acute target organ damage can usually have their blood pressure reduced gradually over a period of six to 48 hours.⁵ Nifedipine has been very helpful in this setting, although occasional patients exhibit excessive and rapid decreases in blood pressure. Use of the sublingual route of administration is now only rarely indicated in patients who are able to swallow the capsule. This is because a more gradual onset of action within 30 minutes is usually preferable to a sudden decrease

within 5 to 10 minutes. Moreover, sublingual absorption of nifedipine is negligible,⁶ and the more rapid onset of action merely represents quicker availability of the liquid (versus capsule) for absorption in the proximal small intestine.

Isolated Systolic Hypertension.

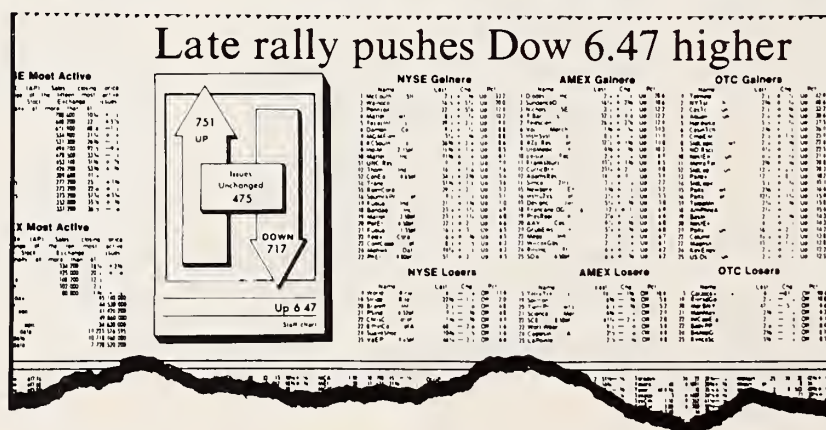
In winter, 1991, the Systolic Hypertension in the Elderly Trial (SHEP) will complete 5-year follow-up on 4,736 elderly patients with isolated systolic hypertension (i.e., ISH, a SBP of 160 mm Hg or more and a DBP below 90 mm Hg) randomized to treatment with either placebo or active drug therapy. Results of the trial will be announced in the summer of 1991, and will have a major impact on whether ISH

should be actively treated or left alone.

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Immediate Periorbital Reconstruction Following Mohs Surgery: Three Case Studies

J.L. Gayton, M.D., David Kent, M.D., Janice K. Ledford, C.O.M.T.

Introduction

Immediate repair of periorbital wounds following Mohs micrographic surgery has been well documented.¹⁻⁶ This technique permits immediate reconstruction of periorbital defects with maximum conservation of healthy tissue and high cure rates. When cancer surgery results in facial deformities, reconstruction should both restore function and allow for a natural cosmetic appearance. Thus, the repair techniques chosen should address function and appearance.

This article presents three cases of periorbital reconstruction immediately following Mohs micrographic surgery.

Case Studies

Case 1.

The first patient of this series was a 67-year-old white man with a basal cell carcinoma of the right lower lid. Mohs excision left a defect measuring 12 × 6 mm, approxi-

When cancer surgery results in facial deformities, reconstruction should both restore function and allow for a natural cosmetic appearance.

mately one-third of the lower lid, including a portion of the tarsal plate.

The defect was converted to a pentagon with sharp iris scissors. A semicircular flap lateral to the defect was fashioned with a #15 blade. A canthotomy of the inferior branch of the lateral canthal tendon was then performed to allow the flap to advance and rotate. The tarsus, lid margin, and vertical incisions were

closed. The angle of the lateral canthus was then reformed with polyglycolic acid absorbable suture through the conjunctiva and the advanced flap. The donor area was closed with 5-0 silk.

Case 2.

A 62-year-old white man had just undergone Mohs excision of an extensive recurrent basal cell carcinoma. This procedure resulted in a defect of the left cheek as well as full thickness of the left lower lid measuring 45 × 60 mm. Various branches of the VII cranial nerve were sacrificed as well. The repair involved (1) a myocutaneous flap from the left upper lid to the left lower lid, (2) a conjunctival graft, (3) a tarsorrhaphy, and (4) a full thickness skin graft.

(1) A myocutaneous flap was obtained from the left upper lid. The graft area was first marked on the lid and then incised. Skin and muscle were subsequently dissected, leaving the flap attached at the base.

(2) Next a lid speculum was inserted to expose the bulbar con-

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junctiva of the left eye. A conjunctival graft was harvested from this area using hydraulic dissection and excision. The graft was sutured into the defect of the left lower lid. The myocutaneous flap was then brought down to the lower lid and sutured into place.

(3) A tarsorrhaphy was then done to decrease corneal exposure, since the VII nerve was involved and its recovery was doubtful. Sharp iris scissors were used to remove the upper and lower lid margins at the lateral canthus. The canthus was then closed.

(4) Graft template material was placed over the remaining defect and outlined to be 25% larger than the original defect to allow for skin contracture secondary to scarring. The template was cut out and placed over the medial aspect of the right upper arm. (The inner arm was chosen due to severe actinic damage to more preferred areas.) The graft was then outlined and harvested. This full thickness graft was sutured into place with 6-0 silk, closing the remaining lower lid and cheek defect. The donor site was allowed to heal by granulation.

Case 3.

The third patient was an 80-year-old white man who had had Mohs surgery to excise a basal cell carcinoma of the right lower lid. The surgical defect measured 18 × 20 mm in the right medial canthal area. Part of the lacrimal canaliculus had been excised as well. Repair consisted of the insertion of nasolacrimal tubing and a rotational flap.

The nasolacrimal procedure was handled first. After the nose was packed with cocaine, a 0-0 Bowman probe was inserted from the remaining upper canaliculus down into the nasolacrimal duct. The proximal end of the lower canaliculus was identified with the probe as well. Silicone tubing was inserted through the defect, down the nasolacrimal duct, and into the nasal cavity. The cocaine packs were

Excision via Mohs micrographic surgery conserves more normal tissue than conventional excision. A blood-free field with negligible swelling makes the fresh tissue technique amenable to prompt repair.

removed from the nose and the tubing pulled through. The ends of the tubing were tied together with 5-0 silk and allowed to retract into the nares.

A blepharoplasty incision was made in the right upper lid and a skin muscle flap fashioned. The base of this flap remained anchored in the medial canthus. The flap was rotated to cover the medial canthal defect and sutured into place with 6-0 mild chromic.

Discussion

Flaps, grafts, and other reconstructive techniques can be used to restore ocular function and cosmesis following Mohs surgery. From our experience, we have developed the following guidelines:

1. Myocutaneous flaps are the preferred method of repair when possible. This provides a "graft" with an established blood supply.

2. When the defect has no adjacent area available for a flap, free grafts are necessary. The usual donor sites are the upper eyelid, retroauricular area, supraclavicular area, or inner upper arm.

3. In cases where the total lid thickness must be reconstructed, the dermal, tarsal, and mucosal deficits must each be replaced. At least one layer of the eyelid should be reconstructed by a flap since grafting all three layers would prob-

ably result in necrosis.

a. The dermal portion of the reconstruction is supplied by a flap or graft as outlined above.

b. Cartilage grafts serve to replace the tarsal plate and are generally taken from the ear. An appropriate length is cut without going through the ear lobe's interior aspect. Any involved tendons may be sutured into the graft at the site as well.

c. A conjunctival graft or flap is indicated to supply the mucosal tissue layer in total lid construction. It is sutured to the palpebral aspect of the flap or graft.

4. Nasolacrimal involvement necessitates upper and lower canicular probing followed by intubation. The tubing is brought through the nose, tied, clipped, and allowed to slip back inside the nares.

5. A tarsorrhaphy may be necessary if lid closure is a problem. This prevents global dehydration and corneal necrosis.

When considering the repair of a marginal lid defect, we suggest the following criteria: For a defect involving up to 25% of the lid, primary closure. A 25-70% defect could be repaired by primary closure as well if there is enough laxity.

If not, a semicircular flap or tarsoconjunctival (Hughes) flap is advised. Defects of 70-100% would require a Hughes flap and skin graft with a spacer (cartilage or hard palate).

Non-marginal defects of any size are generally repaired with a skin graft (in the patient with normal circulation) or a myocutaneous flap (if the patient's circulation is poor).

Conclusion

The three cases cited represent various methods of periorbital reconstruction. Deciding which technique is indicated in any particular case must combine knowledge and

good judgment on a case-by-case basis. Excision via Mohs micrographic surgery conserves more normal tissue than conventional excision. A blood-free field with negligible swelling makes the fresh tissue technique amenable to prompt repair. Modern management of skin lesions thus calls for a multi-disciplinary approach utilizing the skills of both the Mohs and oculoplastic surgeon.

Acknowledgements

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Planning For Retirement: Some Practical Guidelines

Gary Matthews

WHEN IT COMES to planning for retirement, many physicians tend to develop what one might call the "Scarlet Syndrome." Unfortunately, this "I'll think of it all tomorrow" approach causes many physicians to delay retirement planning until "tomorrow" actually comes. And then it's too late.

Retirement planning is crucial, not only to physicians and their families, but to their colleagues and associates as well. All physicians, particularly those who have reached their early or mid forties, should develop some written plan for future retirement.

The Solo Practitioners

If you're a solo practitioner, the anticipation and planning for retirement is particularly critical. Too many solo practitioners simply "close the door" when they reach retirement age. While this is perfectly acceptable with certain cautions, this option eliminates any possibility for the well-deserved financial benefits that can result from

All physicians, particularly those who have reached their early or mid forties, should develop some written plan for future retirement.

the years you have invested in building a reputable, well-established practice.

A better strategy is to consider recruiting a younger associate who will eventually become a partner in your practice. This is best done during your mid 40s, when your skill, reputation, and energy levels are at their peak. Generally speaking, a solo-practitioner has a 10-year window (usually between age 45 and 55) during which he or she can op-

timally bring on a new associate/partner.

Recruiting a young associate has two main advantages. First, it helps retain a maximum value for your practice. Typically, in a solo practice, patient and referral base grow older with the physician, ultimately causing a decline in practice value. Bringing a younger associate/partner on board, can prevent this decline. Such an associate can "revitalize" your practice by both picking up the slack when your own activity slows down and by attracting new patients to the practice. If you're 45 and bring in a young associate, you can consider retiring at age 55 or 60 when this associate is in the prime of his or her practice life cycle. Because this associate has helped your practice continue to operate as a viable, growing concern, the value of the practice will be worth considerably more than if you had remained a solo practitioner.

The second advantage to bringing on an associate/partner is that

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it virtually guarantees a buyer for your share of the practice when you retire. Selling your shares to this associate can add significant dollars to your retirement income when compared to simply "closing the door" or selling a declining practice as a solo practitioner.

Partnerships and Group Practices

Today it is all too common for senior physicians to avoid thinking about retirement until the very last minute. This often results in their walking into their practices one day and abruptly announcing plans to retire. Unfortunately, this usually puts the entire practice in turmoil. It creates a crisis situation in which major changes caused by the retirement must be made in a very difficult and compressed time frame.

When a senior doctor retires, his or her shares of the practice are usually divided evenly and bought by the remaining partners. If a physician announces retirement without sufficient notice, practice partners may not be able to generate the financial resources necessary to purchase the retiree's shares. This usually results in the corporation having to purchase the shares which causes a considerable cash drain on operating funds.

Having to redistribute the workload creates another hardship on practice partners when retirement comes suddenly. Because there is usually not enough time to recruit an additional associate before the retirement takes effect, the retiree's workload must be divided among the remaining physicians. This redistributed workload creates a great deal of stress, confusion, hardship, and inconvenience to physicians and patients alike.

Group practices can choose from a variety of pre-planned retirement strategies to avoid these crisis situations. Selecting the best one requires consideration of the needs of the physician and practice alike.

Strategy 1: Mandatory Retirement Age

This strategy is similar to the way retirement is handled in other industries. In this instance, the practice agrees that all principal physicians will work to a specified, mandatory retirement age which is pre-set and agreed on by the corporation or partnership. For example, a practice corporation can establish a mandatory retirement age at 65. In this case, all physicians within the practice are expected to work at full capacity until this designated retirement age. At age 65, the retiring physician sells his or her shares of the practice to the remaining physicians and leaves with no further professional or financial responsibilities.

The advantage of this strategy is that all physicians know they are treated equally and each has ample time to make the necessary financial and personal plans necessary to prepare for retirement. The drawback is that this strategy is inflexible and does not allow room for adjustments to meet the varying needs and desires of individual physicians.

Strategy 2: Gradual Slow-Down of Activity and Income

This strategy allows a retiring physician to gradually slow down professional activity within the practice and take a reduced income which reflects this slow down. This retirement process can start and progress through any age, although it is most often recommended to begin at age 55.

At age 55, a physician choosing this strategy may elect first to stop weekend call. The physician and practice then agree on a negotiated discount of compensation which reflects this cut-back in activity. This can be anywhere from 10% to 15%. At age 58, this physician may elect to discontinue night call — and reduce income by another 10% to 15%. Then, at age 60, this physi-

cian, along with other members of the practice, may decide which hospital, surgical, diagnostic, and office procedures he or she will discontinue — and again reduce income to reflect the declining workload. By age 65, the physician may continue an office practice only, and by age 70, he or she may sell his interest in the practice to remaining partners.

When practices choose this option, they usually award an emeritus status to the retiring physician. The emeritus status entitles the practice to maintain the retiring physician's name on the masthead and allows the retiring physician to continue functioning within the practice in a consulting capacity for which a small monthly salary (around \$1,000) is paid. A small office with minimal secretarial support is also provided.

This plan benefits both the practice and retiring physician. It allows the physician to maintain an active professional lifestyle for as long as possible and allows the practice to benefit from the continued association with a well-known and respected member of the medical community. And, because the retirement is gradual, the practice has ample time to make the appropriate adjustments to prepare for the future retirement.

Strategy 3: Gradual Slow-Down with No Income Reduction

This strategy is identical to Strategy 2 with one very important difference. There is no reduction in compensation that reflects the retiring physician's reduction in workload. In other words, even though a physician may choose not to take weekend call, or may reduce his or her workload, compensation remains comparable to other members of the practice. The difference comes when the retiring physician sells his or her share of the practice to remaining physicians. In this instance, the physician's ownership

interest is worth less than if he or she had taken a reduced income because the goodwill value has actually been drawn in advance of actual retirement and stock sale. Therefore, at retirement, the physician's shares are sold at face value, reflecting only the hard asset value of the corporation of partnership.

Choosing whether or not to reduce income as workload decreases (Strategies 2 or 3) depends on the personal financial situation of each retiring physician. The physician who chooses to reduce income to reflect workload essentially defers a significant portion of his or her retirement income to a later date, while the physician choosing not to reduce income takes it over a period of time prior to full retirement.

Strategy 4: Presentation of Formal Retirement Plans by a Specified Age

With this strategy, the partnership or corporation agrees that every physician within the practice must present a formal retirement plan by a specified age, and that this plan must take a minimum of 3 to 5 years to take effect. In other words, a practice can agree that all physicians must announce retirement plans by age 55 (the age can vary), but the actual retirement, or "slow-down," cannot take place until age

The physician who chooses to reduce income to reflect workload essentially defers a significant portion of his or her retirement income to a later date, while the physician choosing not to reduce income takes it over a period of time prior to full retirement.

58. If, for some reason, the retiring physician defaults on the plan set forth and agreed upon by the practice, and leaves before the designated time, he/she loses all goodwill value of his/her ownership interest when they are distributed and bought by the remaining members of the practice.

This strategy is probably the most effective and equitable for group practice physicians. The major advantage is that it allows physicians to completely customize retirement plans to meet individual preferences and needs. One physician, for example, may choose full retirement at age 58, while another

may choose to begin a gradual slow-down of activity that will allow him or her to work in some capacity through age 65 or 70.

Because the practice is aware of these plans well enough in advance, it has plenty of time to prepare for the upcoming retirement. If a senior physician chooses full retirement at the end of 3 years, the practice can begin steps that will lead to the recruitment of another full-time practitioner to take the retiring physician's place. If, on the other hand, the senior physician wants to gradually slow down activity, the practice may choose, instead, to implement a different plan to address a gradually changing workload.

As we can see, physicians have several options when they plan retirement in advance. Regardless of which option is chosen, however, it is important that each plan be formally documented as a business agreement of the practice. This can be done by entering the plan as a resolution in the minute books of professional corporations or as an informal memo agreed to by all members of a partnership.

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Georgia Supreme Court Strikes Down "Wrongful Birth" Action

Robert N. Berg*

ONE OF THE TRULY intriguing features of the American system of jurisprudence is its flexibility — the ability to accommodate technologic changes never contemplated by the drafters of the Constitution. Nowhere is this flexibility more evident than in the development of judicially-created doctrines designed to deal with advances in modern medical technology. Every once in a while, however, a court will throw up its hands and, in essence, say "the legal system is not capable of handling this type of matter; only the legislature can deal with it." One such case, involving "wrongful birth" allegations, is the subject of this month's Legal Page.

"Wrongful" Malpractice Actions

Brittany Abelson was born with a genetic chromosomal disorder known as Down's Syndrome. Her parents brought suit against the OB-GYN group which provided post-conception obstetrical care and treatment. The principal allegations brought against the physicians were that they failed properly to counsel the mother, who was 37 years of age at the time of Brittany's birth, as to the risks of her pregnancy resulting from her increased maternal age; in particular, the parents alleged that the physicians failed to inform the mother concerning the availability of a post-conception diagnostic test called an

‘The Supreme Court has again deferred to the legislature, this time by refusing to recognize a “wrongful birth” action. We look for this debate to continue in the legislature in the coming years.’

amniocentesis. The parents argued that, had the test been performed and the results explained to them, they would have elected not to go forward with the pregnancy.

After decisions by the trial court and the Georgia Court of Appeals, the suit ultimately reached the Georgia Supreme Court,¹ which commenced its analysis by distinguishing among the three types of "wrongful" malpractice actions asserted by the plaintiffs: "wrongful pregnancy" actions, "wrongful life" actions, and "wrongful birth" actions. According to the Court, a "wrongful pregnancy" action is

typically brought by the parents of a child whose conception or birth is due to a physician's negligent performance of a sterilization or abortion procedure. In a well-publicized 1984 case,² the Court, siding with the vast majority of other States, found that such an action was "no more than a species of malpractice," and authorized recovery by the parents. However, the Court went on to limit damages recoverable under a "wrongful pregnancy" action, to those general and special damages incurred during the pregnancy of the mother and the delivery of the child. The far greater amount of damages sought by the parents, relating to the ordinary costs of raising the child, were not allowed. The Court reasoned that, offsetting the costs and expenses involved in child raising, society places a value on human life in general and on the lives of children in particular, making it most difficult to support any notion that parents may suffer a compensable injury resulting from the birth of a child.³

This logic also came into play in analyzing the second type of action, one for "wrongful life." An action for "wrongful life," as described by the Court, involved allegations brought on behalf of an impaired child that, but for the treatment or advice provided by the physician to the child's parents, the child would never

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have been born. Throughout the country, courts have refused to recognize an action for "wrongful life"; as explained by a New York Court:

*"(I)t does not appear that the infants suffered any legally cognizable injury. . . . Whether it is better never to have been born at all than to have them born with even gross [impairments] is a mystery more properly left to the philosophers and theologians. Surely the law can assert no competence to resolve the issue, particularly in view of the very nearly uniform high value which the law and mankind has placed on human life, rather than its absence. . . . [Moreover,] a cause of action brought on behalf of an infant seeking recovery for wrongful life demands a calculation of damages dependent upon a comparison between the Hobson's choice of life in an impaired state and nonexistence. This comparison the law is not equipped to make."*⁴

The last of the "wrongful" malpractice claims, a "wrongful birth" claim, is brought by the parents of an impaired child. Basically, in a "wrongful birth" claim, the parents allege that, but for the treatment or advice provided by the physician, the parents would have aborted the fetus, thereby preventing the birth of the child. Many courts in other States have found that a valid claim for "wrongful birth" may be maintained;⁵ in only two states, North Carolina and Missouri, have Courts refused to recognize a "wrongful birth" claim.⁶

The Supreme Court had little difficulty in dealing with two of the three "wrongful" malpractice claims raised by the

‘Because the physicians did not contribute to the existence and the impairment of the child, the parents could not allege that the negligence of the physicians served to cause the injury.’

Abelsons, and in reaching conclusions consistent with those reached by the vast majority of courts in other States. As to the "wrongful pregnancy" claim, the Court simply followed its 1984 holding, finding that a valid claim could be raised, but that the available damage remedy would be significantly limited. Alternatively, the Court affirmed the lower courts' finding that no viable "wrongful life" claim could be brought.

Absent Action by the Georgia General Assembly, No Claim Can Be Brought for "Wrongful Birth"

On the third claim, the Georgia Supreme Court, siding with the minority point of view, found that it could not recognize a "wrongful birth" claim. According to the Court:

"An analysis of traditional tort law principles, even as applied in an age of ever-advancing medical technology, simply does not authorize the finding that a physician, who has provided post-conception prenatal care to an expectant mother, should be held liable, even to a limited extent, for an impairment which the child unquestionably inherited

*from her parents and an impairment which was already existence when the parents first came into contact with the physician."*⁷

In particular, a majority of the Court was unwilling to say that the life of the child, even in an impaired condition, served as the "injury" necessary to establish a tort claim.⁸

Moreover, in any tort case, it is necessary for a plaintiff to prove "causation" in order to obtain damages, and, according to a majority of the Court, causation could not be established in a "wrongful birth" case. This was so because the impairment to the child was genetic and not the result of any injury negligently inflicted by the physicians. Essentially, because the physicians did not contribute to the existence and the impairment of the child, the parents could not allege that the negligence of the physicians served to cause the injury.⁹

The Court also focused on the fact that, even assuming that a claim could be maintained, it would be most difficult to structure an appropriate damage remedy. Of particular importance to the Court was the fact that, in its view, no other Court dealing with the issue had structured a remedy which adequately compensated the child and parents, without unduly penalizing the defendant physicians. For example, the Court noted that there was no clear consensus as to whether damages should only take into account the expenses incurred prior to the time the child reached the age of majority, or whether damages should continue through the entire life of the child.¹⁰

Two Justices dissented from the

majority opinion, primarily agreeing with the basic tort analysis applied by the majority. Essentially, according to the dissenters, the traditional tort analysis worked just fine and early was capable of dealing with a "wrongful birth" claim. In particular, the dissenting Justices had no problem in finding that the "injury" to the parents in a wrongful birth case consisted of the extraordinary expenses incurred by the parents in raising a severely impaired child. Similarly, the dissenters would have found that the "causation" element was satisfied by the parents, who alleged that they could have aborted the fetus, had they known of the child's pending impairment.¹¹

Conclusion

In 1984, the Georgia Supreme Court authorized a limited right of action for "wrongful pregnancy," but it "punted" the matter to the Georgia General Assembly to provide for any broader recovery for parents injured in that type of case. Since that time, no legislation has been enacted by the General Assembly, relating to "wrongful pregnancy" actions. Now, the Supreme Court has again deferred to the legislature, this time by refusing to recognize a "wrongful birth" action. We look for this debate to continue in the legislature in the coming years.

Notes

1. *Atlanta Obstetrics & Gynecology Group v. Abelson*, _____ Ga. _____, Fulton County Civil Report, Vol. 101, No. 244, p. 9B (December 11, 1990).
2. *Fulton-DeKalb Hospital Authority v. Graves*, _____ Ga. 441, 314 S.E.2d 653 (1984).
3. *Id.*, 252 Ga. at 443.
4. *Becker v. Schwartz*, 386 N.E.2d 807, 812 (N.Y. 1978), quoted in *Atlanta Obstetrics & Gynecology Group v. Abelson*, _____ Ga. at _____, n. 4.

5. See, generally, Annotation, "Tort Liability for Wrongfully Causing One to be Born," 83 A.L.P.3d 15 (1978). Courts approving an action for "wrongful birth" include those in New Hampshire, New York, Colorado and Michigan.

6. See *Azzolino v. Dingfelder*, 337 S.E.2d 528 (N.C. 1985); *Wilson v. Kuenzi*, 751 S.W.2d 741 (Mo. 1988).

7. *Abelson, supra*, _____ Ga. at _____.

8. *Ibid.*

9. *Ibid.*

10. *Ibid.*

11. *Ibid.*

QUOTES

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Levamisole and Its Use in Adjuvant Treatment After Surgical Resection of Colorectal Cancer

Gregory Neal, B.S., John P. Wei, M.D.

LEVAMISOLE is the 1-isomer of 2,3,5,6-tetrahydro-6-phenylimidazo-(2,1-)-thiazole. Since 1966, levamisole has been used as a nematocidal agent in veterinary medicine. As with many other drugs, it was subsequently used as an antihelminthic agent in humans for the treatment of parasitiasis.

The anti-helminthic action of levamisole appears to act via cholinergic stimulation within the parasite, producing a rapid reversible muscular paralysis. At higher concentrations it also inhibits the enzyme fumarate hydratase, which may contribute to its effect.¹ More interest was directed to levamisole in the 1970s when it was found to have immunostimulatory activity by Kox and Renoux, who reported enhanced immunization response against *Brucella abortus* with levamisole.²

Reports indicate that the effects of levamisole on the immune system are complex. Its actions are better characterized as an immunomodulatory agent rather than an immunostimulant, since it appears to restore depressed immune function rather than to increase immune response to supra-normal levels. Specifically, levamisole can stimulate antibody formation to various antigens, enhance T-cell responses by inducing T-cell activation and proliferation, potentiate monocyte

‘The majority of criticisms of the intergroup study dealt primarily with the relatively short follow-up time and the lack of a group using 5-FU alone as a treatment control.’

and macrophage functions such as phagocytosis and chemotaxis, and increase neutrophil motility, adherence, and chemotaxis.³

These properties suggested the possibility of levamisole as an investigational neoplastic agent. In some animal models simulating a surgical adjuvant setting, levamisole has been demonstrated to exert an antitumor effect. The antineoplastic mechanism is still

unknown, although the effect is greater against metastatic tumors than against the primary tumor and is more prominent when the tumor burden present is low. An early study by Verhagen indicated promising results of levamisole alone against colonic carcinoma.⁴ Subsequent investigations were then prompted by an interest in using levamisole alone or as an adjuvant in conjunction with other commonly used chemotherapeutic agents against colorectal carcinoma.

Colorectal carcinoma presently ranks second only to lung cancer as a major cause of cancer-related mortality in the United States and in western Europe.⁵ More than 150,000 new cases of colorectal cancer occur each year. The population-adjusted incidence for this tumor has remained constant at approximately 47 cases per 100,000 for the past 30 years. About 75% of individuals diagnosed with colorectal carcinoma will have primary surgical resection with curative intent, but despite the high resectability rate, nearly half of all patients with colorectal carcinoma will die from recurrent or metastatic disease.⁶

The prognosis for patients with colorectal carcinoma is based on the extent of tumor spread at the time of diagnosis, commonly staged by various modifications of the Dukes' Classification system

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and by the more uniform TNM Classification system (Table I).⁷ The 5-year survival is approximately 80% for tumors confined to the submucosa, Dukes' A; 60% for tumors penetrating deeper into the bowel wall, Dukes' B1; 45% for tumors penetrating through the serosa and into the pericolic fat, Dukes' B2; and as low as 25% when regional lymph nodes are involved, Dukes' C.⁸ Because of the high probability of recurrent disease, patients with Dukes' B or C (Stage II or III) disease have been treated in a series of trials with adjuvant therapy evaluating the efficacy of chemotherapy, radiotherapy, and immunotherapy.

Historically, 5-fluorouracil (5-FU) has remained the most active single agent used in the treatment of colorectal carcinoma since its introduction 25 years ago. 5-FU is an antimetabolite that blocks the methylation reaction of deoxyuridylic acid to thymidylic acid thereby interfering with DNA synthesis and to a lesser extent with RNA synthesis. The depletion of DNA and RNA leads to cellular death and is most pronounced in those cells with a high rate of mitosis. The toxicities of 5-FU include stomatitis, esophagopharyngitis, diarrhea, anorexia, nausea and vomiting, and leukopenia. Attempts to enhance the response rate to 5-FU by combining it with other marginally active agents such as simustine, mitomycin, and vincristine have been disappointing and have failed to demonstrate any improvement in survival.⁹

The first trial by the North Central Cancer Treatment Group and the Mayo Clinic began in 1978 with 104 patients with Dukes' B2 colorectal cancer and

TABLE I — TNM Classification and Staging of Colorectal Carcinoma

Primary Tumor

- TX primary tumor cannot be assessed
- T0 no evidence of primary tumor
- Tis carcinoma in situ
- T1 tumor invades submucosa
- T2 tumor invades muscularis propria
- T3 tumor invades through the muscularis propria into the subserosa, or into no peritonealized pericolic or perirectal tissues.
- T4 tumor perforates the visceral peritoneum, or directly invades other organs structures.*

Regional Lymph Nodes

- NX regional lymph nodes cannot be assessed
- N0 no regional lymph node metastasis
- N1 metastasis in 1 to 3 pericolic or perirectal lymph nodes
- N2 metastasis in 4 or more pericolic or perirectal lymph nodes
- N3 metastasis in any lymph node along the course of a named vascular trunk

Distant Metastasis

- MX presence of distant metastasis cannot be assessed
- M0 no distant metastasis
- M1 distant metastasis

Stage Grouping

				Dukes [†]
Stage 0	Tis	N0	M0	
Stage I	T1	N0	M0	A
	T2	N0	M0	
Stage II	T3	N0	M0	B
	T4	N0	M0	
Stage III	Any T	N1	M0	C
	Any T	N2, N3	M0	
Stage IV	Any T	Any N	M1	

*Direct invasion of other organs or structures includes invasion of other segments of colorectum by way of serosa (e.g. invasion of the sigmoid colon by a carcinoma of the cecum).

**Dukes' B is a composite of better (T3, N0, M0) and worse (T4, N0, M0) prognostic groups as is Dukes' C (Any T, N1, M0) and (Any T, N2, N3, M0).

297 patients with Dukes' C colorectal cancer prospectively randomized to receive either levamisole and 5-FU in combination, levamisole alone, or observation only for 1 year in an adjuvant surgical setting. A median follow-up period of 7 years and 9 months revealed no observed advantage for the Dukes' B2 group but a significant decrease in recurrence and a higher probability of survival in the Dukes' C group treated with the levamisole and 5-FU combination.¹⁰ The trial noted no additional toxicities other than those which might be anticipated from 5-FU therapy alone.

These results were encouraging but due to the small patient numbers, a larger confirmation trial was needed before definite conclusions could be drawn. A second and larger intergroup study began in 1987 under the auspices of the National Cancer Institute and included the origin North Central Cancer Treatment Group, the Eastern Cooperative Oncology Group, the Southwest Oncology Group, and the Mayo Clinic, using the same methodology as the original trial except that only colonic carcinoma patients were accrued patients with rectal carcinoma were ineligible. This study

cluded 318 patients with Dukes' C tumors which were randomly assigned to observation alone or treatment with combination 5-FU and levamisole for 1 year postoperatively. Another 929 patients with Dukes' C cancers were assigned to either observation, levamisole alone, or levamisole and 5-FU therapy. A median follow-up time of 3 years indicated no benefit of adjuvant treatment for patients with Dukes' B2 lesions; however, the adjuvant treatment in the group with Dukes' C lesions reduced recurrence rates by 41% and reduced death rates by 33%.¹¹ The results of the levamisole alone arm were no different than the observation control. In addition, the adjuvant treatment was generally well tolerated and did not require hospitalization. The majority of criticisms of the Intergroup study dealt primarily with the relatively short follow-up time and the lack of a group receiving 5-FU alone as a treatment control. Another separate trial did randomize patients between no treatment, 5-FU alone, and 5-FU and levamisole with significant survival advantages for the latter group.¹² It must be noted that this study contained only 130 patients with a large proportion of rectal cancer patients, and the regimen was quite different from the other trials. The standard regimen utilized in the intergroup study is as follows: beginning 3 to 5 weeks after surgery, levamisole 50 mg p.o. is given three times daily for 3 days and repeated every 2 weeks, 5-FU is given by rapid I.V. infusion (450 mg/m²/day) for 5 days starting on day 28 followed by weekly injections of 5-FU at 400 mg/m². Both drugs are continued for 1 year. The use of levamisole alone has not shown any appreciable

‘Attempts to enhance the response rate of 5-FU by combining it with other marginally active agents such as simustine, mitomycin, and vincristine have been disappointing and have failed to demonstrate any improvement in survival.’

effect in an adjuvant treatment setting in two documented studies. Laboratory studies treating cultured colon cancer cell lines with levamisole alone or in combination with 5-FU have demonstrated no cytotoxic enhancement.¹³ A more extensive double-blinded randomized trial comparing levamisole to placebo in Dukes' C cancer patients was performed by the European Organization for Research and Treatment of Cancer from 1978 to 1985. Two hundred ninety-seven patients were randomized to levamisole 50 mg or placebo twice per week for 1 year. Results concluded that there was no significant difference between the two treatment groups in either disease-free survival or overall survival.¹⁴

Although the exact mechanism of levamisole synergizing with 5-FU in an adjuvant setting is not clear, it does appear to merit consideration for the post-operative adjuvant treatment of patients with Dukes' C colon cancer. In order to obtain more definite conclusions, longer follow-up periods for studies in

progress are needed, in addition to more uniform and more accurate staging of colorectal tumors using the TNM system.

Because the clinical characteristics of colon carcinoma are different from rectal carcinoma, clinical trials and therapeutic recommendations should be separate for colonic tumors and for rectal tumors. At the recent National Institutes of Health Consensus Panel, the current recommendations are that patients who are suitable candidates should be referred for appropriate adjuvant trials. Otherwise, patients with Dukes' C (Stage III) colon cancer should be offered adjuvant post-operative treatment with 5-FU and levamisole in the regimen used by the Intergroup Study. Patients with Dukes' B2 (Stage II) colon cancer should be referred for adjuvant trials only, as no definite adjuvant therapy can be recommended at this time. For those patients with rectal carcinoma, evidence supports the use of 5-FU and levamisole for both Dukes' B and Dukes' C rectal carcinoma (Stage II and III). In addition, because of the rate of local recurrence after surgery for rectal carcinoma, adjuvant radiation treatment is also advised for those patients.¹⁵ As more data accumulate and mature, it is hoped that adjuvant therapy will become more exact and effective, and more patients with colorectal carcinoma can be prevented from developing recurrent disease.

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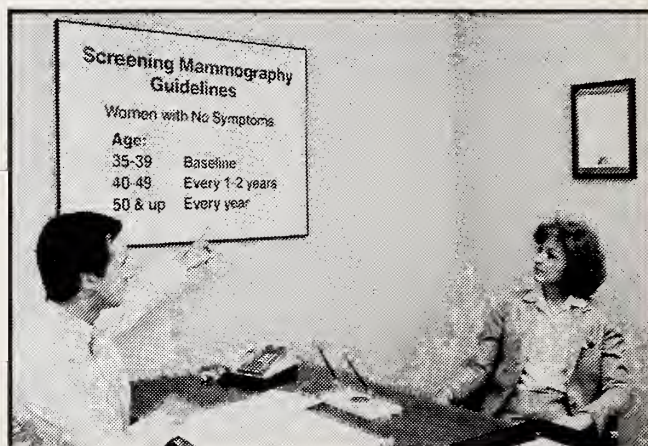
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MRI UPDATE



Figure 1

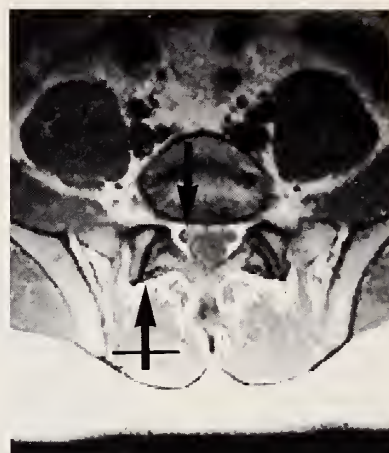


Figure 2

CLINICAL HISTORY: This is a 26-year-old male with back pain and right lower extremity radiation.

FINDINGS: This is an example of a normal study on a young adult. **COMMENT:** MRI is the screening test of first choice for suspected disorders of the lumbar spine. Notice the clear depiction of the normal L5-S1 disc (figure 1, crossed arrow). The discs of this patient exhibit high signal intensity reflecting normal hydration and none of the discs are narrowed. None of the discs indent the thecal sac which is of intermediate signal intensity and appears as the gray band

in the center of the image. The vertebral bodies are homogeneous and free of destructive lesions. The conus medullaris (arrow) is normal. This sagittal image demonstrates the advantages of MRI over other screening modalities. Routine CT scanning will not display the conus medullaris, lesions of which may masquerade as disc herniation. The general area of coverage is superior with MRI. Disc detail is much better displayed with MRI.

The axial image at L5-S1 (figure 2) exhibits delineation of intraspinal detail far superior to that of CT. The right S1 nerve root is clearly

displayed (arrow) surrounded by normal perineural fat which is the bright high intensity material in the periphery of the spinal canal. State-of-the-art MR images clearly display the bony anatomy of the lumbar spine including the facet joints (crossed arrow). Degenerative diseases and bony neoplasm are routinely detectable.

MRI involves no ionizing radiation and no intrathecal contrast material is needed. It is a patient-friendly outpatient examination well suited for screening purposes.



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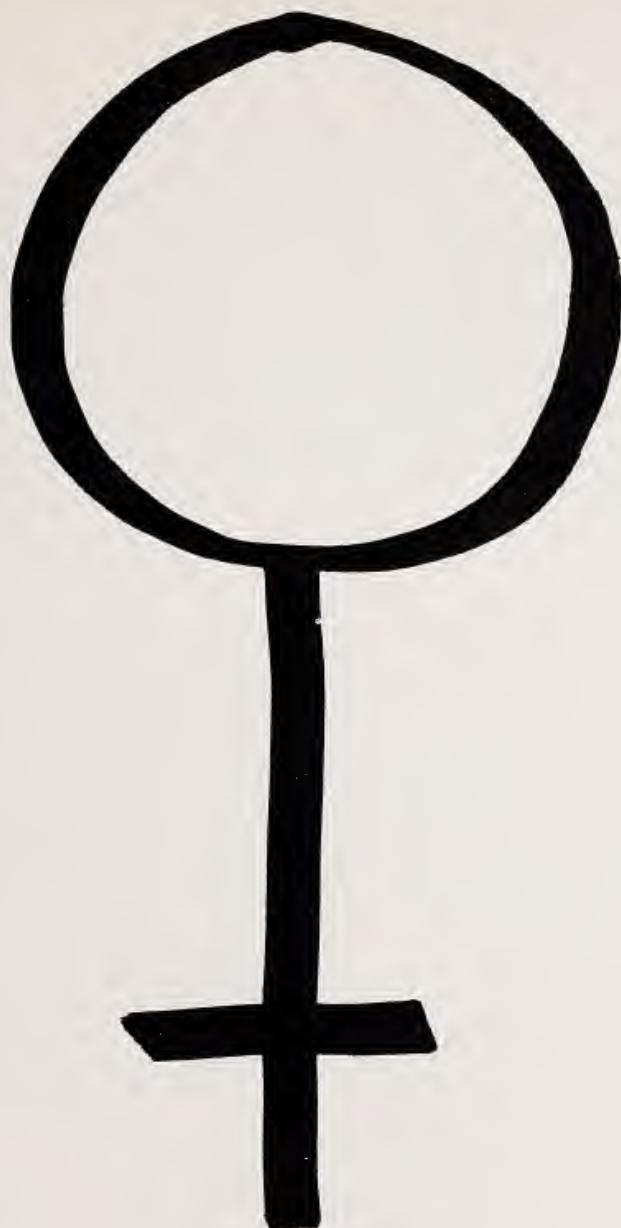
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Sorter NA, Wasserman SI, Austen KF. Cold urticaria release into circulation of histamine and eosinophil chemotactic factor of anaphylaxis during cold challenge. *N Engl J Med* 1976;294:687-90.

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- Positive direct Coombs' tests have been reported during treatment with cephalosporins.
- Ceclor should be administered with caution in the presence of markedly impaired renal function. Although dosage adjustments in moderate to severe renal impairment are usually not required, careful clinical observation and laboratory studies should be made.
- Broad-spectrum antibiotics should be prescribed with caution in individuals with a history of gastrointestinal disease, particularly colitis.
- Safety and effectiveness have not been determined in pregnancy, lactation, and infants less than one month old. Ceclor penetrates mother's milk. Exercise caution in prescribing for these patients.

Adverse Reactions: (percentage of patients)

Therapy-related adverse reactions are uncommon. Those reported include:

- Hypersensitivity reactions have been reported in about 1.5% of patients and include morbilliform eruptions (1 in 100), Pruritus, urticaria, and positive Coombs' tests each occur in less than 1 in 200 patients. Cases of serum-sickness-like reactions have been reported with the use of Ceclor. These are characterized by findings of erythema multiforme, rashes, and other skin manifestations accompanied by arthritis/arthralgia, with or without fever, and differ from classic serum sickness in that there is infrequently associated lymphadenopathy and proteinuria, no circulating immune complexes, and no evidence to date of sequelae of the reaction. While further investigation is ongoing, serum-sickness-like reactions appear to be due to hypersensitivity and more often occur during or following a second (or subsequent) course of therapy with Ceclor. Such reactions have been reported more frequently in children than in adults with an overall occurrence ranging from 1 in 200 (0.5%) in one focused trial to 2 in 8,346 (0.024%) in overall clinical trials (with an incidence in children in clinical trials of 0.055%) to 1 in 38,000 (0.003%) in spontaneous event reports. Signs and symptoms usually occur a few days after initiation of therapy and subside within a few days after cessation of therapy; occasionally these reactions have resulted in hospitalization, usually of short duration (median hospitalization = two to three days, based on postmarketing surveillance studies). In those requiring hospitalization, the symptoms have ranged from mild to severe at the time of admission with more of the severe reactions occurring in children. Antihistamines and glucocorticoids appear to enhance resolution of the signs and symptoms. No serious sequelae have been reported.
- Stevens-Johnson syndrome, toxic epidermal necrolysis,

and anaphylaxis have been reported rarely. Anaphylaxis may be more common in patients with a history of penicillin allergy.

- Gastrointestinal (mostly diarrhea): 2.5%
- Symptoms of pseudomembranous colitis may appear either during or after antibiotic treatment.
- As with some penicillins and some other cephalosporins, transient hepatitis and cholestatic jaundice have been reported rarely.
- Rarely, reversible hyperactivity, nervousness, insomnia, confusion, hypertonia, dizziness, and somnolence have been reported.
- Other: eosinophilia, 2%; genital pruritus or vaginitis, less than 1% and, rarely, thrombocytopenia and reversible interstitial nephritis.

Abnormalities in laboratory results of uncertain etiology.

- Slight elevations in hepatic enzymes.
- Transient lymphocytosis, leukopenia, and, rarely, hemolytic anemia and reversible neutropenia.
- Rare reports of increased prothrombin time with or without clinical bleeding in patients receiving Ceclor and Coumadin concomitantly.
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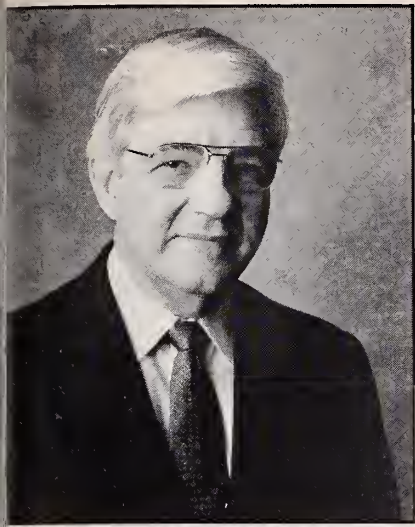
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William C. Collins, M.D.

Wars and Rumors of Wars

Once more into the breach, dear friends, once more."

JUST AS HENRY V was portrayed by Shakespeare before the upcoming duel of his British yeoman with French troops at the Battle of Agincourt, we are called again to move our minds, our bodies, and our assets into another world confrontation. I admit it. I was an over-simplistic optimist in the exhilaration following the breaking of the Iron Curtain and the destruction of the Berlin Wall which signified an end to the Cold War. I lifted a glass of wine at my home and toasted my children and their friends and made a very dramatic pronouncement. This is a great day in the history of the world. It is the answer to the prayers of millions of people that your generation will be spared the necessity of war."

As Jesus cautioned his followers in the book of Matthew, "You will hear of wars and rumors of wars." As of this writing, our most recent war with Iraq and Saddam Hussein has now been on-going for 1 week. I should have known better. I am enough of a student of history to remember World War I, the war to end all wars. Scarcely twenty years later, we were involved in the Second World War, which according to Winston Churchill, in his great work *Memoirs*

of the Second World War was an unnecessary war caused by the naivete of the Allies who thought they could disband their armies, leave a vacuum in Germany, and not have hostilities break out again. Less than 5 years later, we were again involved in the Korean War. Ten years hence, in the VietNam war. All this while the Cold War had been going on. The causes of war and reasons for conflict between nations are similar to the conflicts between individuals which physicians understand or, at least, see everyday, i.e., greed, intolerance, fear, anxiety, and poverty. As long as these conditions exist between humans, they will probably exist between nations resulting in wars and rumors of wars.

Enmity between individuals leads them to regard others as their enemies. "Who is my enemy?" becomes a pressing question. The nature of who is our enemy is never more clearly illustrated than in Rudyard Kipling's *The Man Who Would Be King*. As you recall, two British soldiers were thrown out of the Army in India and went to sell their services and skills in warfare to the tribes in Afghanistan. In searching for a tribe or village that could afford their services, they continued to ask the chieftains of each succeeding village along a large river, "Who are your ene-

mies?" Inevitably, every village had enemies, and they were all described essentially in the same terms. "The people who live up the river are our enemies. They urinate in our river, steal our crops, and rape our women." As illustrated here, man's inhumanity to man on an individual level can be carried forward as men collect into nations. We cannot clearly define our enemies as specifically as the Afghanistan chieftains, but I think in the future the enemies of all nations of the world will be those individuals or those nations who disturb the peace of the world. Machiavelli has said, "There are no good wars, there are only just wars. War is just which is necessary and arms are hallowed when there is no other hope but in them."

If there are any people in the world that should know of the underlying sameness of all the peoples of the world, it is physicians. All blood is red, all muscle, bone, and organic tissue can be evenly rendered asunder by the weapon of the day, be it a club, an arrow, a flame-thrower, or an atomic bomb. Once the uniform is removed, one injured human being essentially looks like another injured human being, and they must be cared for and repaired as best we can. Georgia physicians, those in the military, and those

called up into Reserve duty, are busily at work taking care of the combatants, our newest engagement. As always, Georgia physicians are ready to help in every way they possibly can in our hours of conflict.

Wars inevitably bring about changes in medicine and if there is any good that can be ever ascribed to armed conflict, it is that the necessities of war often make us face up to inadequacies in our health care system and/or inadequacies in management of specific problems. Out of the Crimean War came Florence Nightingale and her demands for a planned, humane approach to battle casualties. Out of the Civil War came the recognition of the need for public health practices such as immunizations and the proper disposal of sewage as the infections and dread epidemics, such as typhoid, accounted for almost as many deaths as did the Minnieballs. World war I gave us the idea of the triage of casualties

and the proper transportation of extremity injuries using the Thomas splint, probably saving more lives than any other invention in that particular encounter. Advances made in medicine during World War II are innumerable, but the proper management of burn injuries, the advancement of hand surgery as a separate entity, and the use of antibiotics in traumatic wounds are three of the more notable examples of progress. Great advances in vascular surgery and the increased awareness of the necessity for the rapid transport of patients to definitive MASH hospitals were two of the major accomplishments of the Korean War. Two spin-offs of the VietNam era involved the reimplantation of extremities that would have formerly been sacrificed and improved management of the trauma patient with ideas concerning immediate resuscitation, mobilization of injured patients, careful attention to fluid and electrolyte balance, and the nutritional status.

One glaring similarity between the professional soldier and the physician that comes to mind is that they are only truly appreciated when they are needed. The general population may criticize the expense of their technical advances but when push comes to shove, they are awfully glad they are there.

So I, for one, must join that great patriot who said, "My country right or wrong, my country right or wrong, my country." I will continue to work to eliminate in myself those qualities such as greed or intolerance that might be inflamed in conflict with others and join with other right-thinking people in the world in warring only against the enemies of peace.

Once more into the breach, dear friends, once more.



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Miracles appear to be so, according to our ignorance of nature, and not according to the essence of nature.
MICHEL DE MONTAIGNE: *Essays*, I, 1580



Charles R. Underwood, M.D., Marietta general surgeon and this Journal's Editor, received one of two Georgia Hospital Association's Distinguished Service Awards. The award recognizes his support of hospital and health care services and his efforts to increase public attention to local health care needs.

PERSONALS

Clayton-Fayette CMS

V. Alexander Garcias, M.D., a urologist in Riverdale, has been elected chief of staff at Clayton General Hospital. He was vice-chief in 1988 and has been an active staff member since 1981.

Cobb County CMS

Marietta general surgeon **Charles R. Underwood, M.D.**, was one of two recipients of the Georgia Hospital Association's (GHA) 1991 Distinguished Service Awards presented at the Association's annual meeting in Atlanta last January. The awards, which have been presented annually since 1968, recognized hospital and community leaders

for their support of improved hospital and health care services, as well as their efforts to increase public attention to local health care needs. Recipients are chosen by an anonymous committee and must be proven leaders in both their community and business or profession.

As a surgeon and a member of the Board of Trustees of GHA, Dr. Underwood is in a position to act as a bridge between physicians and hospitals, recognizing the importance of both groups being able to work smoothly together. He is a leader both in his profession and the community, giving unselfishly of his time and talent through numerous volunteer efforts. He has been active as a board member of the Georgia Division of the American

Cancer Society and as medical director of the Reach for Recovery Program. In 1987, he received the award for Outstanding Contributions to the Control of Cancer, and he is an honorary life member of the cancer society's North Cobb Unit.

He has advanced health care services in the community through his work as a member of the board of medical advisors of the Greater Atlanta Chapter of the United Ostomy Association and as a physician delegate to the American Hospital Association Regional Advisory Board.

"A sincere commitment and degree of sensitivity show forth in Dr. Underwood's dealings with patients, friends and business associates and contribute to the respect and admiration he has

earned from his peers in the health care industry. A true Renaissance man, he combines a strong family life, service to the community, the scientific discipline of medicine and a love of the arts with a genuine desire to ensure the availability of health care services to all."

DeKalb Medical Society

Kennestone Hospital in Marietta has named **Victor Gonzalez, M.D.**, director of its Mental Health Services. Dr. Gonzalez now heads clinical services, program development, and planning for the hospital's medical unit. He is currently president of the Georgia Chapter of the American Association of Psychiatric Administrators.

Physicians at DeKalb Medical Center have recently elected the 1990-92 medical staff officers.

The new chief of staff is **R.H. Almeroth, M.D.** He succeeds Roy W. Vandiver, M.D., who served as chief of staff from 1988-90. **Julian Fuerst, M.D.**, was named vice-chief of staff and the new secretary is **Catherine Huggins, M.D.**

Chiefs for the medical staff departments were also elected at the annual meeting. They are department of surgery, **William Hardcastle, M.D.**; department of family practice, **Omar Najjar, M.D.**; department of internal medicine, **Paul Crank, M.D.**; department of obstetrics/gynecology, **John Carter, M.D.**; department of pediatrics, **Jackie Gotlieb, M.D.**; department of psychiatry, **Thomas Bantly, M.D.**; department of emergency medicine, **James P. O'Neal, M.D.**; department of anesthesiology, **William Keeton, M.D.**; department of radiology, **Robert Stephenson, M.D.**; and

department of pathology, **Frank Matthews, M.D.**

Medical Association Atlanta

Jacob A. Spanier, M.D., a gynecologist, was appointed Chairman of the Northside Hospital board of trustees. Dr. Spanier had served as secretary of the board for the past 2 years and has been on staff at Northside since 1968.

Mitchell CMS

Archibal Alexander McNeill Jr., M.D. of Camilla, retired recently after 40 years as a family practitioner.

Among McNeill's many accomplishments, was his being named Family Physician of the Year by the American Academy of Family Physicians in 1985. A member of the board of trustees of HCA Palmyra Medical Centers, Dr. McNeill was also named Georgia Family Physician of the Year by the Georgia Academy of Family Physicians.

He is currently a member of the board of directors of the Camilla Chamber of Commerce, the Downtown Development Authority, and serves on MAG's Public Health Committee.

Richmond CMS

Elaine B. Feldman, M.D., an internist/nutritionist in Augusta, won The National Dairy Council Award for Excellence in Medical/Dental Nutrition Education for 1991 given by the American Society for Clinical Nutrition, Inc. Dr. Feldman is Professor of Medicine, Physiology and Endocrinology, Chief, Section of Nutrition, and Director, Georgia Institute of Human Nutrition, at the Medical College of Georgia.

JOURNAL NEWS

We are going to institute a special feature in this *Journal* dealing with pleasurable activities. We might call it something like "Getting Rid of the Cobwebs" or "Interesting Activities Away From the Office." In that feature, we invite you to write about unusual restaurants, vacation trips, automobiles, sporting activities — just about anything in the way of a recreational activity that you have experienced and enjoyed. To make this useful and successful we need your input. All you have to do is take the time to drop me or Susan Johnson, our Managing Editor, a note describing some unusually fun or pleasurable activity you have experienced. Our only caveat would be that you use a reasonable amount of discretion in describing these "pleasurable activities." It won't work unless you help us. So please, send us brief articles about your extracurricular encounters.

QUOTES

One bushel of March dust is worth a king's ransom.

JOHN HEYWOOD: *A Play of the Weather*, 1533

Who in this world of ours their eyes

*In March first open shall be wise;
In days of peril firm and brave,
And wear a bloodstone to their grave.*

Author unidentified

Tell that to the marines — the sailors won't believe it.

WALTER SCOTT: *Redgauntlet*, XIII, 1824

(Quoted as a saying)

MRI UPDATE



Figure 1

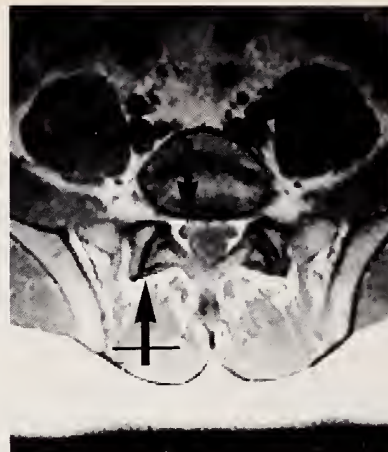


Figure 2

CLINICAL HISTORY: This is a 26-year-old male with back pain and right lower extremity radiation.

FINDINGS: This is an example of a normal study on a young adult. **COMMENT:** MRI is the screening test of first choice for suspected disorders of the lumbar spine. Notice the clear depiction of the normal L5-S1 disc (figure 1, crossed arrow). The discs of this patient exhibit high signal intensity reflecting normal hydration and none of the discs are narrowed. None of the discs indent the thecal sac which is of intermediate signal intensity and appears as the gray band

in the center of the image. The vertebral bodies are homogeneous and free of destructive lesions. The conus medullaris (arrow) is normal. This sagittal image demonstrates the advantages of MRI over other screening modalities. Routine CT scanning will not display the conus medullaris, lesions of which may masquerade as disc herniation. The general area of coverage is superior with MRI. Disc detail is much better displayed with MRI.

The axial image at L5-S1 (figure 2) exhibits delineation of intraspinal detail far superior to that of CT. The right S1 nerve root is clearly

displayed (arrow) surrounded by normal perineural fat which is the bright high intensity material in the periphery of the spinal canal. State-of-the-art MR images clearly display the bony anatomy of the lumbar spine including the facet joints (crossed arrow). Degenerative diseases and bony neoplasm are routinely detectable.

MRI involves no ionizing radiation and no intrathecal contrast material is needed. It is a patient-friendly outpatient examination well suited for screening purposes.



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Plastic & Reconstructive Breast Surgery

BY JOHN BOSTWICK, M.D., III

A Review by Charlie Yarn, M.D.

IHAVE THOROUGHLY enjoyed reviewing *Plastic and Reconstructive Breast Surgery* by Dr. John Bostwick, III, Professor of Surgery, Division of Plastic and Reconstructive Surgery, Emory University School of Medicine.

This work in two volumes is the work of a master craftsman. Dr. Bostwick is an international authority on breast surgery. He is recognized for his leadership and innovative pioneering in modern breast aesthetic and reconstructive surgery. Those of you who have read and enjoyed Dr. Bostwick's previous books and papers will find this book a must.

Here, Dr. Bostwick again demonstrates his complete and thorough understanding of the female patient seeking and/or needing breast surgery. His knowledge of her anatomy, physiology, and psyche, as well as the pathology and its surgical correction is clearly translated to the reader. Dr. Bostwick speaks clearly and to the point, with an appeal not only to the finished surgeon but to the student as well.

This text, with its many photographs and drawings, is also an "Atlas." The two volumes are physically beautiful books with distinctive covers and fine paper. The pages with large print and clear sub-titles

make for very easy reading or quick reference. The volumes are well documented with a fine list of references. The text throughout is greatly reinforced with photographs and drawings demonstrating the problems and their solutions, as well as possible complications.

Volume I deals with basic fundamentals and aesthetic breast surgery. It discusses in addition to fundamentals implants and expanders, augmentation and reduction mammoplasty, mastopexy, and problems and complications.

Volume II, "Reconstructive Breast Surgery," discusses breast cancer, decisions in breast reconstruction, various methods of reconstruction, and problems.

The author avoids unnecessary detail, yet gives full coverage of the subject. He states as his motivation, "a desire to share insights gleaned and lessons learned from clinical experience, building on the cumulative examples of others."

This he has done with a book that reads with the ease of a good novel. Once started, it is hard to put down.

Dr. Yarn is a retired plastic surgeon in Atlanta.

Nichols, Underwood Receive Prestigious GHA Service Awards

Harold Nichols of Union General Hospital in Blairsville and Charles R. Underwood, M.D., of Kennestone Hospital in Marietta are the recipients of the Georgia Hospital Association's 1991 Distinguished Service Awards.

They were honored for their outstanding contributions to health care in Georgia during opening ceremonies at the GHA annual convention in Atlanta Jan. 17.

Hospitals' Financial Health is Precarious

The median loss per discharge for U.S. hospitals in 1989 was \$9.97 — a dramatic drop from a median profit of \$16.98 per discharge a year earlier — according to data released by the Healthcare Financial Management Association (HFMA).

Hospitals' worsening financial health prompted an HFMA panel of experts to caution that the quality of health services provided by hospitals could erode by 1994.

"When a hospital's financial condition worsens, that affects staffing, the ability to purchase new technology and the ability to fund research and development, all of which have an impact on quality," said Richard L. Clarke, HFMA president.

The Association's data are based on the audited financial reports of 1,807 hospitals and pointed to some favorable trends. For example, hospitals' median return-on-equity ratio rose from 6.9 in 1988 to 7.8 last year. And hospitals' median ratio for fixed-asset turnover, which measures the amount of revenue generated per dollar invested in fixed assets, increased from 1.73 in 1988 to 1.81 in 1989, its highest level in 11 years of measurement.

Inpatient Revenue Per Physician is Up

Hospital inpatient revenue generated for the facility per physician averaged \$513,000 in 1989, a 15 percent jump from 1988, new survey data show. This has no relationship to physician income.

Among the 824 hospitals surveyed, the average inpatient revenue in 1989 from primary care physicians was \$377,000; from specialists it was \$409,000. Per hospital admission, physicians generated average revenue of \$5,392 in 1989.

The survey, which includes data from 18,000 physicians and more than 4.3 million admissions, was conducted jointly by Jackson & Coker, Atlanta, and the Atlanta office of Ernst & Young.

Data on 15 million outpatient encounters showed that the overall average annual revenue per physician in 1989 was \$165,000. Primary care physicians reported an average of \$99,000 and specialty physicians generated average outpatient revenues of \$121,000 annually.

On the average, staff physicians admitted 128 patients last year, up from 125 in 1988 and 112 in 1987. Obstetrics/gynecology had the highest annual rate of inpatient admissions with 155, while primary care physicians averaged 135 admissions in 1989 — down from 165 in the previous year.

The average inpatient revenue generated per admission by primary care physicians increased 35 percent in 1989 to \$3,709, while the average revenue per admission for specialists increased 18 percent to \$6,126.

"When you look at the high number of admissions that primary care physicians are generating and consider the fact they are the feeder network for physician specialists, it is understandable why the demand

for primary physicians is at an all-time high," said Randy Gott, Jackson & Coker's director of research.

Ethics of MRI Companies Investigated

The House Ways and Means Committee's health panel is conducting an ethics investigation in payments made to physicians who refer patients for magnetic resonance imaging (MRI) scans to companies that own the equipment.

Anonymous letters sent from Florida and Southern California informed health panel chairman Peter Stark (D-Calif.) that certain MRI companies are offering physicians returns on MRI referrals, even if the physicians have not invested in those companies.

"If you are currently referring seven patients each week for MRI, we can show you how to earn an excess of \$100,000 per year and still be within the 'safe harbor' protection of the coming regulations," stated an advertisement from Florida Mobil MRI Co. Inc., Fort Lauderdale, Fla.

An accompanying letter from Mobil MRI Executive Vice President Gordon D. Simonds offered physicians daily access to a mobile MRI unit and payment for each scan performed on their patients.

An aide to Stark said the Florida company's assurances of ethics and legality could be challenged, and Stark is investigating the reasonableness of the paybacks and whether they are inducements to referrals.

Language that would have included MRI units in the restriction on physician referrals in the 1988 budget law's Medicare provision was dropped. Stark is looking to change this.

(This page is sponsored by the Georgia Hospital Association.)

Of Conflict and the Future

Ye have heard that it hath been said, An eye for an eye, and a tooth for a tooth: But I say unto you, That you shall resist not evil: but whosoever shall smite thee on thy right cheek, turn to him the other also. And if any man will sue thee at the law, and take away thy coat, let him have thy cloak also. And whosoever shall compel thee to go a mile, go with him twain. Give to him that asketh thee, and from him that would borrow of thee turn not thou away. Ye have heard that it hath been said, Thou shalt love thy neighbor, and hate thine enemy. But I say unto you, Love your enemies, bless them that curse you, do good to them that hate you, and pray for them which despitefully use you, and persecute you."

THE GOSPEL OF MATTHEW,
CHAPTER 5, VERSES 38-44
(ST. JAMES VERSION)

6 August 1945:
The hour was early; the morning still, warm, and beautiful. Immuring leaves, reflecting sunlight from a cloudless sky, made a pleasant contrast with shadows in my garden as I gazed absently through wide-flung doors opening to the south. Clad in drawers and undershirt, I was sprawled on the living room floor exhausted because I had just spent a sleepless night on duty as a air warden in my hospital.

Suddenly, a strong flash of light startled me — and then another. So well does one recall little things that I remember vividly how a stone lantern in the garden became brilliantly lit and I debated whether this light was caused by a magnesium flare or sparks from a passing trolley.

Garden shadows disappeared. The view where a moment before all had been so bright and sunny was now dark and hazy. Through swirling dust I could barely discern a wooden column that had supported one corner of my house. It was leaning crazily and the roof sagged dangerously.

Moving instinctively, I tried to escape, but rubble and fallen timbers barred the way. By picking my way cautiously I managed to reach the roka and stepped down into my garden. A profound weakness overcame me, so I stopped to regain my strength. To my surprise I discovered that I was completely naked. How odd! Where were my drawers and undershirt?

What had happened?

All over the right side of my body I was cut and bleeding. A large splinter was protruding from a mangled wound in my thigh, and something warm trickled into my mouth. My cheek was torn, I discovered as I felt it gingerly, with the lower lip laid wide open. Embedded in my neck was a sizable fragment of glass which I matter-of-factly dislodged, and with the detachment of one stunned and shocked I studied it and my blood-stained hand.

Where was my wife?

Suddenly thoroughly alarmed, I began to yell for her: "Yaeko-san! Yaeko-san! Where are you?"

Blood began to spurt. Had my carotid artery been cut? Would I bleed to death? Frightened and irrational, I called out again: "It's a five-hundred-ton bomb! Yaeko-san, where are you? A five-hundred-ton bomb has fallen!"

Yaeko-san, pale and frightened, her clothes torn and blood-stained, emerged from the ruins of our house holding her elbow. Seeing her, I was reassured. My own panic assuaged, I tried to reassure her.

"We'll be alright," I exclaimed. "Only let's get out of here as fast as we can."

She nodded, and I motioned for her to follow me.

The shortest path to the street lay through the house next door so through the house we went — running, stumbling, falling, and then running again until in headlong flight we tripped over something and fell sprawling into the street. Getting to my feet, I discovered that I had tripped over a man's head.

"Excuse me! Excuse me, please!" I cried hysterically.

There was no answer. The man was dead. The head had belonged to a young officer whose body was crushed beneath a massive gate.

We stood in the street, uncertain and afraid, until a house across from us began to sway and then with a rending motion fell almost at our feet. Our own house began

to sway, and in a minute it, too, collapsed in a cloud of dust. Other buildings caved in or toppled. Fires sprang up and whipped by a vicious wind began to spread.

It finally dawned on us that we could not stay there in the street, so we turned our steps toward the hospital. Our home was gone; we were wounded and needed treatment; and after all it was my duty to be with my staff. This latter was an irrational thought — what good could I be to anyone, hurt as I was.

We started out, but after twenty or thirty steps I had to stop. My breath became short, my heart pounded, and my legs gave way under me. An overpowering thirst seized me, and I begged Yaeko-san to find me some water. But there was no water to be found. After a little my strength somewhat returned, and we were able to go on.

I was still naked, and although I did not feel the least bit of shame, I was disturbed to realize that modesty had deserted me. On rounding a corner we came upon a soldier standing idly in the street. He had a towel draped across his shoulder, and I asked if he would give it to me to cover my nakedness. The soldier surrendered the towel quite willingly but said not a word. A little later I lost the towel, and Yaeko-san took off her apron and tied it around my loins."

HIROSHIMA DIARY,

MICHIHIKO HACHIYA, M.D.

(DR. HACHIYA'S DESCRIPTION OF THE HIROSHIMA ATOMIC BLAST.)

"I call heaven and earth to record this day against you, that I have set before you life and death, blessing and cursing:

therefore choose life, that both thou and thy seed may live."

DEUTERONOMY, CHAPTER 30, VERSE 19.
(ST. JAMES VERSION)

"I am yet convinced that having come this far we must not look back. Block of salt or not, our course is now set. We must proceed with utmost speed and ruthless dedication to a successful termination of this unfortunate encounter."

IT IS A GRAY and cloud covered day here in my town this Sunday in January, 1991. Now and then a blustery wind scatters rain droplets on the window. Splatters them on the window that looks out from my office desk on the little garden with its bird feeder and birdbath. They come and go, the chickadees and their friends, seemingly thankful for a bit of nourishment on a day such as this. "Quite appropriate," I think to myself. "We talk of 'Nutrition' this month in the *Journal* and here you provide me with nutrition in action." I shiver. One is in the birdbath now. Fluttering and splashing as though it be summer. I turn up the thermostat. Watching them on this January day chills me.

But writing of "Nutrition" is not in me today. "Let them read the articles," I say to myself. Today we are "at war" and I am struggling to keep my mind safely focused on my patients' problems amidst the distractions of media reports. Never, it seems to me, has so much attention been focused, consumed us, as have the events following this January 15th. It reminds me of a *New Yorker* cartoon of some years back depicting a bathrobe clad middle-aged man hunched forward in front

of a television set with a pigeon flying in the window. His wife in the background talking to another lady remarks, "It's the ABC news every hour on the hour, the NBC news every half hour on the half hour, and those damned carrier pigeons in between."

"Nutrition" is of course a part of all this chaos engulfing us today. A day or so ago one of the public relations people for the Baghdad regime was reporting on the manner of action of the "Great Satan" and how the "embargo" was leading to shortage of food supplies and to starvation of women and children. And so in a "nutritional sense" I asked myself why I found no sense of guilt in such a pronouncement and accusation.

But today, this gray and cloudy and blustery day in the peace and calm of my sanctuary, here in the warmth of my office with my birds "nutritioning" outside, today in the sands of the Middle East we are killing each other. The talking — the negotiating and the proposals and the pleading — all of the this is over. Looking back it seems so futile. Perhaps it was "predestined" as we Presbyterians look at things. But we tried, so very hard it seems to me, we tried to avoid this conflict. It seemed to do no good. No good at all except to salve our conscience that at least we had recognized the horror about to be visited upon us, upon our adversary and had gone that "extra mile" to avoid the conflagration which now engulfs us.

To reflect, to look at past words and actions, can be pleasant and instructive, or depressing, depending upon the scenery one encounters. I thought it well, however, to look back at this Editor's thoughts as expressed in the October, 1990, issue of this *Journal* at a time long before the outbreak of hostilities.

on doing so one finds the following:

'War had come first into my life a quiet Sunday afternoon in 1941 when the serenity of the small country town was broken by the news that an unexpected attack on the U.S. Navy at Pearl Harbor had been carried out by the Japanese Empire. The war in Europe had ended in our favor, and yet here we found ourselves engaged upon another front with a formidable adversary. My cousin, little in days beyond his 18th year, had at the time been drafted, trained, and within 6 weeks sent into the Battle of the Ige and killed.

Little time passed before I too found myself ungainly clad in khaki and greeting Florida coral snakes eye to eye while crawling belly down through the training grounds Florida palmetto swamps. . . . The months went by in a cloudy mist of military acclamation until the Bomb destroyed Hiroshima and then Nagasaki. Soon peace came again. We were now to muster out. The long home, and the disrupted life remained. It had ended. . . .

But had it ended? Our jaded memories fell slowly away, and in their place came Korea and then Vietnam. They too passed from us leaving scars of personal loss and from the latter an emotional reaction itself asking, demanding, that with previously unused vigor examine our commitment, our honor, devotion, to peace. War had been pushed far away from us, and peace wrapped about us as distance lent us security. But yesterday my friend's nurse wife left home, and today the urology friend departs. And so I asked myself if there at a distance, a quietness, a security which will shield us from the horrors. We, all of us on this fragile planet, seem to stagger out of one conflagration only to gather ourselves together, slowly and with

‘There is yet time to learn as a universe of diverse nations how to live together. To learn to do so while yet protecting and preserving our individuality and our cultures. We have no other choice save that of foolish and irresponsible self destruction.’

painful effort, to finally regain our courage, our self-confidence, our brashness, and then to rush chin held high into the battle again. Our memory seems so short. The horror, the hopelessness, the devastating destructiveness fades as the sun sets and sleeps in peace while the morning rushes again upon us full of hope. Another chance to assert ourselves. Spread democracy, freedom of speech and our ideals across the land. Fling the blanket of Christianity, of Judaism, of Islam, about the universe. A Brave New World to conquer. And all the while the subtle whisper of agincourt, of Verdun, of Gettysburg, of Guadalcanal, of the 38th Parallel, of Saigon eludes our restless spirit. Shall we ever know peace or are we destined to forever, we who now populate this fragile deteriorating sphere, to forever find our peace in a never ending search for our next encounter with each other?

This embattled spirit found peace last in 1945 when the wisdom and technical prowess of the West placed and detonated an atomic device above two Japanese cities. I cried. The war for which I had

been trained, been conditioned, been programmed for had ended. What was I to do now? The enemy had disappeared. My skills were no longer needed. I could go home. No more to plunder the land of those who threatened me. I found myself devastated.

I look back in time as we stand on the threshold of yet another conflict and marvel at that 18 year old who seems so foreign, so misunderstood to me now. I think, "I hardly knew thee." The marvelous and unbridled hatred which had been so carefully nurtured in him, the desire to destroy the despised enemy regardless of any personal qualities, seem to me now the characteristics of someone I knew not. Oh surely I now understood the insanity of a crazed leader and the mandate to control him. Certainly the need to protect, to keep secure, one's homeland was clear. More clear than these, however, the soldier grown to manhood looked ever more deeply for a way, a plan, a negotiation leading us all to peace. No doubt such thoughts had run through the minds of many people through the ages. Last and most seriously perhaps was Woodrow Wilson after the first great World War. He talked then of a League of Nations. The United Nations, fragile and staggering, yet learning to walk and surely impotent, yet represented an attempt at such a consensus. One could only think that we seem to be rushing ever faster to that point where "the world is too dangerous for anything but truth, too small for anything but brotherhood."

It seems a lifetime from that day in August, 1990, when those words were written, to this January, 1991. A lifetime of pleading and negotiating, of organizing and preparing, of studying and desperately

trying to understand a culture and particularly an individual so obviously different from our own. Those honest efforts at reconciliation have failed. So has failed my own war of so many years ago that about which it was said it was to be the "war to end all wars." We are again at war.

In August it was my urology friend and the nurse wife of my orthopedic friend who joined the war effort. Now my surgeon and my internist friends are gone. So it is across the land as conflict at a great distance comes closely home. I listened to the debates, to the arguments, and for the moment each makes reason. I watched the demonstrations, the marches. I read their signs, "No Blood For Oil," and I think, "I too want to have no blood for oil." I asked myself if we tried hard enough to avoid it. Where should the Biblical cheek turning stop? I am yet

convinced that having come this far we must not look back. Block of salt or not, our course is now set. We must proceed with utmost speed and ruthless dedication to a successful termination of this unfortunate encounter.

What then, should we indeed find ourselves the victors? Find ourselves, our allies and our adversaries, occupants of a world ideologically divided? Once again, as so often in the past, facing the rebuilding of a country destroyed, an economy in disarray in a world suffused with distrust? Surely we shall not see us all worshiping the birth of the "Christ child" nor bowing at regular intervals toward Mecca. It is our diversity which gives to this planet of ours not only its interest but also perhaps its last hope for survival. Those with knowledge of such things tell us

that within a calculated period of time this Spaceship Earth shall run its course and be no more. That not tomorrow, however, but rather trillions of years ahead. There are those voices of doom that would tell us that Planet Earth was doing quite well until humankind was introduced into the "balance of nature." That it is we who have destroyed the forest, polluted the air and water, created an energy source capable of making uninhabitable this entire planet. I for one take no part of such thinking. There is yet time to learn as a universe of diverse nations how to live together. To learn to do so while yet protecting and preserving our individuality and our cultures. We have no other choice save that of foolish and irresponsible self destruction.

CF

MARCH 1991

26 — *Atlanta: Quantitative Thallium Myocardial Scintigraphy*. Category 1 credit. Contact Office of CME, Emory Univ. Sch. of Med., 1440 Clifton Rd., Atlanta 30322. PH: 404/727-5695.

29 — *Atlanta: Modern Methods of Diagnosing and Treating Diabetes Mellitus and Its Complications*. Category 1 credit. Contact Office of CME, Emory Univ. Sch. of Med., 1440 Clifton Rd., Atlanta 30322. PH: 404/727-5695.

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13 — *Atlanta: Lymph Node Pathology*. Contact Customer Services Dept., American Society of Clinical Pathologists, 2100 W. Harrison St., Chicago, IL 60612. PH: 800/621-4142.

16 — *Atlanta: TC-99M Myocardial Spect*. Category 1 credit. Contact Office of CME, Emory Univ. Sch. of Med., 1440 Clifton Rd., Atlanta 30322. PH: 404/727-5695.

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17-19 — *Atlanta: Nutrition and Cancer*. Category 1 credit. Contact Office of CME, Emory Univ. Sch. of Med., 1440 Clifton Rd., Atlanta 30322. PH: 404/727-5695.

18-19 — *Lake Lanier: Annual Cardiopulmonary Rehabilitation Update 1991*. Category 1 credit. Contact American Heart Association, Ga. Affiliate, 1685 Terrell Mill Road, P.O. Box 6997, Marietta 30065. PH: 404/952-1316.

20-21 — *Augusta: Current Concepts in Carnitine Research*. Category 1 credit. Contact Div. of Cont. Ed., MCG, Augusta 30912-1400. PH: 404/721-3967.

21-26 — *Atlanta: American Association of Immunologists*. Contact Exec. Dir., J.F. Saunders, Ph.D., 9650 Rockville Pike, Bethesda, MD 20814. PH: 301/530-7178.

21-26 — *Atlanta: American Association of Pathologists*. Contact AAP, 9650 Rockville Pike, Bethesda, MD 20814. PH: 301/530-7130.

26-28 — *Augusta: Frontiers in Nutrition*. Category 1 credit. Contact Div. of Cont. Ed., MCG, Augusta 30912-1400. PH: 404/721-3967.

27-28 — *Augusta: Pathology Symposium*. Category 1 credit. Contact Div. of Cont. Ed., MCG, Augusta 30912-1400. PH: 404/721-3967.

29-3 May — *Atlanta: Modern Methods of Diagnosing and Treating Diabetes Mellitus and Its Complications*. Category 1 credit. Contact Office of CME, Emory Univ. Sch. of Med., 1440 Clifton Rd., Atlanta 30322. PH: 404/727-5695.

29-4 May — *Augusta: 26th Annual Family Practice Symposium*. Category 1 credit. Contact Div. of Cont. Ed., MCG, Augusta 30912-1400. PH: 404/721-3967.

MAY 1991

9-12 — *Atlanta: Second Conference on International Travel Medicine*. Category 1 credit. Contact Office of CME, Emory Univ. Sch. of Med., 1440 Clifton Rd., Atlanta 30322. PH: 404/727-5695.

13-17 — *Atlanta: Modern Methods of Diagnosing and Treating Diabetes Mellitus and Its Complications*. Category 1 credit. Contact Office of CME, Emory Univ. Sch. of Med., 1440 Clifton Rd., Atlanta 30322. PH: 404/727-5695.

29-2 June — *Savannah: Nongynecologic Pathology*. Contact Customer Services Dept., American Society of Clinical Pathologists, 2100 W. Harrison St., Chicago, IL 60612. PH: 800/621-4142.

JUNE 1991

3-7 — *Atlanta: Modern Methods of Diagnosing and Treating Diabetes Mellitus and Its Complications*. Category 1 credit. Contact Office of CME, Emory Univ. Sch. of Med., 1440 Clifton Rd., Atlanta 30322. PH: 404/727-5695.

9-13 — *Sea Island: 15th Symposium on Lung Disease*. Contact M. Williamson, Southern Medical Association, 35 Lakeshore Dr., P.O. Box 190088, Birmingham, AL 35219. PH: 800/423-4992.

17-22 — *Augusta: 22nd Annual Internal Medicine Symposium*. Category 1 credit. Contact Div. of Cont. Ed., MCG, Augusta 30912-1400. PH: 404/721-3967.

Dear Editor,

I have just returned from my next door neighbor's house where I pronounced him dead. He was 85, and he and his wife have been our neighbors for 37 years. This was their 48th wedding anniversary. She found him dead this morning when she awakened.

I read your editorial "Of Joy and Thankfulness" in the December issue of the *JMAG*. I think it should be required reading for physicians. We desperately need to relish and appreciate the unequalled opportunity for fulfillment of our spiritual lives which the profession of medicine offers us.

There was a black policeman who along with the metro ambulance answered the 911 call to my neighbor's. This guy reminded me that 30 years ago I spent all Thanksgiving night operating on his 10-year-old sister for a GSW to her lower abdomen (shotgun) which destroyed the bladder, uterus, and rectum, and required multiple surgical procedures over the years. She is now happily married and presently in charge of a convalescent home. It's the deep and enduring appreciation and thankfulness stemming from occasions like this that make the practice of medicine worthwhile — not the money that's in it. If we could just realize that early on.

You write so beautifully — Ward Pafford and I (among others) are proud of you.

Sincerely,
Tom Reeves, M.D.

Dear Editor,

I want to congratulate you on keeping the Editor's Corner so interesting and so active. I thoroughly enjoy your writing through this area of the *Journal* and, particularly in the last few months I have been impressed by it.

Also, I would like to congratulate Ms. Susan Dillon Johnson and you on the beauty of the *Journal*. The January *Journal* is outstanding, but so are most of the other issues of the *Journal* in the past number of months. I think that you and Ms. Johnson are to be congratulated on making a very useful and interesting journal into such a beautiful one as well.

My best wishes to you both.

Sincerely,
John R. Lewis, Jr., M.D.
Plastic Surgeon, Atlanta

QUOTES

The Arabs of today are the Arabs of Pharaoh.

R. W. EMERSON: *English Traits*, IV, 1856

Arabia is the cradle of the Arabs, and Mesopotamia is their grave.

ARAB PROVERB

Better the oppression of Turks than the justice of Arabs.

IBID

Hazlitt, who boldly says all he feels, avows that not only he

does not pity sick people, but he hates them.

CHARLES LAMB: *Letter to Bernard Barton*, April, 1824

"Imagination is more important than knowledge."

ALBERT EINSTEIN

The older you get, the greater you were.

LEE GROSSCUP

Marriage should be a duet — when one sings, the other claps.

JAN MURRAY

What bothers me about television is that it tends to take our minds off our minds.

ROBERT ORBEN

The best remedy for a short temper is a long walk.

JACQUELINE SCHIFF

Taxation with representation ain't so hot either.

GERALD BARZAN

"Only the pure in heart can make a good soup."

LUDWIG VON BEETHOVEN

Every cubic inch of space is a miracle.

WALT WHITMAN: *Miracles*, 1856

We will call the Arabs oriental Italians. A gifted, noble people; a people of wild, strong feelings, and of iron restraint over these; the characteristic of noblemindedness, of genius.

THOMAS CARLYLE: *Heroes and Hero-Worship*, II 1840 (Lecture in London, May 8)

ARRIVAL

*When spring arrives I come aware,
Watching the green sprouts poke their points
From the dark of dung and dirt out where
Something of promise God anoints.*

*Spring orchestra's gay notes fly,
Finding the waves to waft their wings
In the unfathomed sightless sky
Where lately not even the God-fearing sings.*

*Where there is spring I know the seed
I buried as hope in soil of sorrow
Will grope and grow and finally lead
My dreams to some green-leafed tomorrow.*

DAY'S END

*The vortex
Fastens itself
To a flowering petal
Of sky
Like the peacock butterfly
To a stamen of hybiscus,
— And I dream,
And herd my dreams
Through the daffodilled
Stars
That dot the pasture
Of the night.*

JOHN RANSOM LEWIS, M.D.

Dr. Lewis, a plastic surgeon in Atlanta, is Georgia's Poet Laureate.



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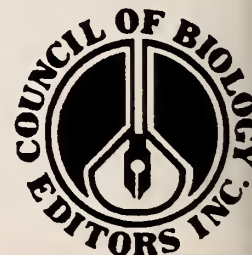
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Primitive Health

S. Boyd Eaton, M.D.

We differ genetically from the Stone Agers of 10,000 years ago by just over one one-thousandth of a percent.

PEOPLE LIVING today — Americans, Africans, Asians, and Europeans — are Stone Agers displaced through time to an environment which is foreign and, in many ways, hostile to basic human biology. That biology is determined by genes which were selected over an inconceivably protracted course of evolution, ultimately culminating in anatomically modern humans who first became widespread perhaps 40,000 years ago.

Genetic evolution is geologically slow. Although our ancestors diverged from those of chimpanzees about 5 million years ago, there is present just over 1% difference in our genes, and we differ genetically from the Stone Agers of 10,000 years ago by just over one one-thousandth of a percent! Therefore, it is generally true that our genetically determined physiology and biochemistry are designed not for the circumstances of 20th century life but for those of existence in the Stone Age.

However, 10,000 years ago an

event of momentous biologic significance occurred: some of our ancestors abandoned their age-old hunting and gathering life ways for a more settled existence based on agriculture and animal husbandry. As when Pandora opened her infamous mythical box, powerful and unprecedented forces were thereby unleashed, ones unlike those which had controlled the ecology and ev-

olution of plants, animals, and microorganisms during the preceding 3 billion years of life on Earth. Then only 200 years ago, the Industrial Revolution introduced still newer influences that have subsequently interacted ever more intensely and complexly with the ancient forces of life.

This "progress" has had a profound impact on human biology. Men and women in modern Western society are exposed to conditions of life which differ radically from those of the pre-agricultural epoch, those which through Darwinian natural selection determined the biologic characteristics of the human species as it now exists. When conditions of life for any animal population deviate from those to which it has become genetically adapted, biologic maladjustment — discordance — is inevitable. The human species is no exception; for us, discordance between our current lifestyle and that for which our genes were selected has promoted the chronic and

Dr. Eaton is chief of radiology at West Paces Ferry Hospital in Atlanta, a clinical faculty member at Emory, and a member of the State Health Policy Council. He is the author of the book, *The Paleolithic Prescription: A Program of Diet and Exercise and a Design for Living*, which was reviewed in the June, 1989, issue of this *Journal*. Dr. Eaton's address is 2887 Howell Mill Rd., Atlanta, GA 30327.

deadly "diseases of civilization." These conditions — atherosclerosis, diabetes, hypertension, osteoporosis, obesity, many cancers, and a host of lesser afflictions — are so-called because they are rare among populations which have continued the life ways of our ancestors while they account for 75% of all mortality in industrialized nations.

A Paleolithic Prescription

The general lifestyle of our Stone Age (paleolithic) ancestors serves as an example and model for us today. Despite the millennia which separate us, we can nevertheless mold many aspects of our existence to recreate selectively the biologically beneficial conditions under which they lived — conditions which remain appropriate and "natural" for humans.

Health Indicators

Body Composition. The relative proportions of fat and lean tissue are more indicative of health status than is total body weight. As measured by differences in skin thickness, people living in affluent countries are encased in excessive fat "envelopes" when compared to people who live by hunting and gathering. An amalgamation of preventive medical and anthropologic data indicates that body fat should range between 5% and 15% in men and between 20% and 25% in women, regardless of age.

Blood Pressure. For hunters and gatherers, blood pressures average somewhat below the 120/80 mmHg accepted as "normal" by modern physicians. Values of 100-110/60-70 mmHg are typical. Furthermore, in such societies blood pressure does *not* increase with age.

Serum Cholesterol. From a paleolithic perspective, the cholesterol standards promoted by the National Cholesterol Education Project are anomalously high. Among hunters and gatherers, serum cho-

Modifications of our usual and customary lifestyle are generally required, but fortunately the paleolithic pattern constitutes a model — one which in many ways anticipates the recommendations of today's nutritionists and preventive medicine specialists.

lesterol averages 125 mg/dL, and figures exceeding 150 mg/dL are uncommon. These figures are similar to those of rural Chinese whose incidence of coronary atherosclerosis is far below that of Americans. The serum cholesterol levels of monkeys and apes fall in this general range, and it is likely that the vascular endothelium of all primates is designed to accommodate cholesterol concentrations of this magnitude — not the 200 mg/dL designated as desirable by the NCEP.

Maximum Oxygen Uptake Capacity (VO₂ max). Physical anthropologists have determined that the aerobic fitness (as measured by VO₂ max) of hunters and gatherers exceeds that of age-matched Americans by about one-third. This finding supports the contention of exercise physiologists and preventive cardiologists that VO₂ max should be at least 40-50 ml/kg/min for men and 30-40 ml/kg/min for women. Fitness of this degree should extend well unto older adult life.

Strength Fitness. The skeletal remains of Stone Agers show that they were, on average, much stronger than typical Americans. We have no

way of directly accessing the strength, but data from exercise physiologists suggest that men should be able to bench press the body weight and leg press 1.5 times their weight. For women two-thirds and 100%, respectively, are appropriate standards. Again, this level of fitness should persist well into what are commonly called our advancing years.

These biologic parameters are seldom attained by people whose diet and exercise habits are typical of 20th century America. Modifications of our usual and customary lifestyle are generally required, but fortunately the paleolithic pattern constitutes a model — one which in many ways anticipates the recommendations of today's nutritionists and preventive medicine specialists.

Nutrition

Carbohydrates. These should provide from 50% to 60% of a typical day's calories. Sugar and refined flour need to be minimized while fruits, vegetables, and whole grains — good sources of complex carbohydrates — should be emphasized. Whenever possible, use fresh produce in preference to frozen, and avoid canned products altogether.

Protein. It can constitute 20% to 30% of daily caloric intake. This should be primarily animal in origin, but from sources that contain little fat. Poultry (without the skin), fish, shellfish, and low or non-fat dairy products are good choices.

Fat. The excessive fat in current American diets is one of the most harmful deviations from the paleolithic experience. For Stone Agers fat provided only about 20% of daily calories, not the 30% conventional health authorities now advocate. The great majority of the fat we eat should be unsaturated; for pre-agricultural humans the ratio between polyunsaturated and saturated fat

was probably about 1.4 whereas for typical Americans it is 0.5 or less. For this reason butter, lard, tropical oils, and hydrogenated fats ought to be completely avoided.

Dietary Cholesterol. Because of their reliance on wild game animals, our ancestors ingested generous quantities of cholesterol for over a million years. This implies that, for us, daily intakes of up to 60 mg. ought to be readily accommodated *PROVIDED* that total fat is restricted to 20% of daily energy and that polyunsaturated fat exceeds saturated fat in the diet. Otherwise, cholesterol intake should be restricted to 300 mg/day or less.

An amalgamation of preventive medical and anthropologic data indicates that body fat could range between 10% and 15% in men and between 20% and 25% in women, regardless of age.

Dietary Fiber. Aim for between 50 to 100 grams a day; our ancestors almost certainly consumed this much or more. Fruits and vegetables are more "natural" sources for fiber than are cereal grains, but the latter are certainly acceptable. Soluble and insoluble fiber have separate physiologic roles, and both are necessary.

Sodium. Restrict salt intake as much as possible. Hunters and gatherers obtain less than a gram of sodium from their daily diets (the well-studied traditional Yanamamo intake averaged 250 mg/day). This requirement is by far the most difficult challenge for persons who wish to recreate paleolithic nutrition. Unfortunately, it is also one of the most important.

Calcium. Total daily intake ought to be at least 1500 mg. The possible exception might be individuals with a history of urolithiasis. Supplementation is often required to attain this figure.

Dietary Supplements. RDA (not megadose) levels of water soluble vitamins, beta-carotene, and Vitamin E provide reasonable assurance of adequate intake. Multi-mineral tablets (including zinc, iron, copper, iodine, magnesium, chromium, and selenium) are also a good idea. Our ancestors almost certainly obtained far more micronutrients (except for sodium and possibly iodine) from their food than we do today, although this may have been partially offset by their intake of dietary fiber. It is likely that supplementary essential fatty acids (especially the Omega-3s) will soon be proven beneficial. Truly "natural" foods (wild game and uncultivated plants) provide higher levels of these nutrients than we ordinarily obtain from our foods.

Despite the contention of current nutritionists, our ancestors had only two food groups (meats and fruits/vegetables), not four. For 2 million years, humans got along nicely without cereal grains and, after weaning, they had no dairy products whatsoever. Nevertheless, by carefully selecting products which maximize beneficial constituents (protein, fiber, complex carbohydrate) and minimize undesirable components (saturated fat, sodium, refined carbohydrate), foods from all four categories can be utilized in a regimen that reconstitutes the essentials of our ancestral and "natural" nutritional experience.

Tobacco

The genus *Nicotiana*, of which tobacco is the best known species, is indigenous to the Americas, Australia, and a few Pacific islands. Accordingly, none of our ancestors

living in Africa, Asia, or Europe had any contact with this substance until after the voyages of discovery during the late 15th and 16th centuries. Cigarettes were essentially unknown to Americans and Europeans until after the Crimean War of the 1850s. Therefore, use of tobacco products is utterly foreign to our genetic heritage, and its disastrous medical consequences should be no surprise. Its use in any form should be completely avoided.

Alcohol

Honey and fruits with sufficient sugar content can undergo spontaneous fermentation, so some of our ancestors may have made seasonal beverages containing alcohol. However, widespread manufacture and consumption is highly unlikely to have begun until after the appearance of agriculture. No group of hunters and gatherers studied in this century has been able to make such drinks, and it is inconceivable that paleolithic humans could have regularly obtained 7% to 10% of their dietary energy from alcohol as Americans do currently. Despite its possible tendency to increase HDL levels, alcohol should be consumed in extreme moderation if at all.

Exercise

Our ancestors had no motorized equipment so that all aspects of their daily existence — hunting, gathering, food preparation, visiting, dancing, moving, tool manufacture, and various other activities — depended on their own physical exertion. Our bodies are still designed in this context, for regular and vigorous use. Stone Agers were not like power lifters nor like ultramarathoners; rather, they resembled decathlon athletes. Their lives, like those of other primate species during the past 50 million years, developed both strength and endurance. The former builds a sturdy and resilient musculoskeletal sys-

tem while the latter enhances our cardiovascular and respiratory capacities. Both are necessary for optimal health.

Frequency. Work out daily. Aim for 30 to 90 minutes of activity per session.

Modes. Emphasize aerobic and resistance exercise on alternate days of the week.

Periodic Variations. Vary specific types of exercise on a regular (e.g., seasonal or semi-annual) basis to minimize injury, forestall burnout, and maximize enjoyment.

For us, discordance between our current lifestyle and that for which our genes were selected has promoted the chronic and deadly "diseases of civilization."

Aerobic Training. Include jogging, bicycling, rowing, swimming, aerobics, stair climbing, bench training, walking, and similar activities. Alternate these in the context of a life-long program.

Resistance Training. Periodically vary specific exercises, areas of concentration, sets, repetitions, and degree of resistance.

Warming Up. Take from 5 to 15 minutes according to temperature, with longer warmups in cold weather. Begin with easy repetitive movements (e.g., slow jogging in place, gentle jumping jacks, sit ups, etc.). Modest stretching comes at the end of the warm up session.

Cooling Down. MANDATORY! Begin with vigorous walking and taper to a slower pace over 5 to 15 min-

utes. A good flexibility program is an excellent way to conclude the cooling down period.

The Paleolithic Paradigm

Our understanding of the relationships among ancient genes, fast-paced cultural change, and modern disease has been slow in developing; its beginnings were intuitive rather than scientific. In 1754, philosopher Jean-Jacques Rousseau wrote that in a "state of nature" men were strong of limb, fleet of foot, and clear of eye. He contrasted this natural condition of health with the proliferating diseases engendered in civilization by wealth and sedentary occupations: "The greater part of our ills are of our own making, and we might have avoided them, nearly all, by adhering to that simple . . . manner of life which nature prescribed. When we think of the savages . . . and reflect that they had hardly any diseases save wounds and old age, we are tempted to believe that in following the history of civil society we shall be telling that of human sickness."

For generations this view was considered naively romantic, and it was unquestionably exaggerated. Rousseau didn't mention infections or post-traumatic arthritis; he didn't comment on an average life expectancy half ours nor on the beneficial wonders of modern civilization — transportation, communication, health care, computers, museums, libraries, and laboratories. He failed to acknowledge the discovery of writing and mathematics. However, he did hit on a fundamental truth: our biology is designed for a different era. Fortunately, we needn't reproduce that time in its totality in order to achieve its benefits for our health and well-being.

In many ways our current health

status far exceeds that of any prior time period, including the paleolithic, but we remain generally fearful of diseases which available evidence suggests were uncommon, rare, or unknown for our remote ancestors. Our challenge, then, an

Our challenge, then, and opportunity, is to integrate the essential elements of paleolithic life into the overall gestalt of fin de millennium existence. To realize our full human potential for vigor and wellness, we must bring together the past and the present.

opportunity, is to integrate the essential elements of paleolithic life into the overall gestalt of fin de millennium existence. To realize our full human potential for vigor and wellness, we must bring together the past and the present.

Those amused, stimulated, inspired, or incensed by this article might consider further reading.

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Nutrition and Cancer

Daniel W. Nixon, M.D.

EVIDENCE FOR a relationship between diet and cancer is rapidly accumulating. It is clear from both the laboratory and epidemiology that overall dietary patterns and specific dietary components can have a powerful effect on cancer development. Numerous human clinical trials are now being conducted to exploit the antineoplastic potential of nutritional manipulation in cancer. This article will review the scientific basis for current dietary recommendations as well as ongoing prevention clinical trials and will present the author's views on future prospects for nutrition-based cancer prevention strategies.

ACS Dietary Guidelines

The current American Cancer Society dietary guidelines for cancer risk reduction are shown in Table 1. These guidelines are intended for healthy adults and are not directed at young children, the elderly, or others with special dietary restrictions and/or specific nutritional needs. Risk reduction does not de-

This article reviews the scientific basis for current dietary recommendations as well as ongoing prevention clinical trials and future prospects for nutrition-based cancer prevention strategies.

pend on changing any one dietary component; maximum risk reduction requires an overall change in eating patterns and food preparation. Thus, the guidelines should be considered together, not separately, to achieve maximum lifetime benefit.

The American Cancer Society dietary guidelines and a brief rationale for each follows:

Dr. Nixon is Vice President for Professional Education, American Cancer Society, Inc., 1599 Clifton Rd., Atlanta, GA 30329-4251.

Maintain a desirable body weight

The American Cancer Society Cancer Prevention Study I found increased mortality from several cancers (colon, breast, gallbladder, uterus, and others) in obese subjects.¹ Laboratory experiments have repeatedly shown that decreased caloric intake in animals is linked to a decreased frequency of spontaneous tumors, as well as increased difficulty in inducing tumors with carcinogens. Interestingly, underfed animals also appear healthier and live longer than their ad lib fed counterparts.² Calorie restriction early in life has recently been shown to decrease cell division in the colons of rats,³ and it is possible that this decrease in mitotic activity might play a role in the cancer resistance brought about by undernutrition.

Cut down on total fat intake

Cancers of the breast, colon, prostate, and pancreas are associated in varying degrees with increased dietary fat intake.⁴ Breast

cancer is less common in populations such as native Japanese who traditionally eat a very low fat diet. When Japanese move to a high risk area such as the United States, their descendants have a higher rate of breast cancer. Several epidemiologic studies have suggested a relationship between increased weight and decreased survival in breast cancer,⁵ and cholesterol levels and weight correlated inversely with survival.⁶

The current recommendation to reduce fat intake to 30% (or less) of total calorie intake may have to be made more stringent as better data become available. The traditional Japanese diet is much lower in fat than 30%. Clinical trials of diets at varying levels of decreased fat are needed to answer this question.

Include a variety of vegetables and fruits in the daily diet

Vegetables and fruits contain numerous vitamins, trace elements, and other compounds that may have anti-cancer activity. Epidemiologic studies consistently show that intake of foods high in vitamin A or B-carotene correlates inversely with cancer incidence.⁷ The initial work on chemoprevention at the NCI in the 1970s involved the activity of retinoids in suppressing malignant transformation. In the early 1980s, the NCI established a Chemoprevention Program designed to explore the cancer preventive properties of micronutrients, other natural compounds, and drugs. To date, over 1000 compounds have been evaluated and over 20 clinical prevention trials are being conducted.

A number of non-nutrient substances with chemopreventive activity occur in plants. These include ellagic acid, B glycyrrhetic acid, and numerous allium compounds. Ellagic acid, found in strawberries and grapes and other fruits, has activity in lung and bladder cancer

Several epidemiologic studies have suggested a relationship between increased weight and decreased survival in breast cancer, and cholesterol levels and weight correlated inversely with survival.

models. B glycyrrhetic acid, a flavoring component in licorice, is active in skin cancer systems. Allium compounds, from garlic and related species, have antiseptic, anti-thrombotic, lipid lowering, and tumor inhibitory effects. These compounds are being evaluated in skin and colon cancer models.⁷ Thus, the benefits of eating more fruits and vegetables may include more than just increased intake of well known vitamins. Much remains to be learned about the disease preventing qualities of plant compounds.

Eat more high fiber foods such as whole grain cereals, legumes, vegetables, and fruits

There has been disagreement over the role of dietary fiber in carcinogenesis. Colon cancer rates are lower in populations who consume an unrefined, high fiber diet, but because such diets are usually low

in fat and contain other substances that may have anti-cancer activity, the role of fiber in the process has been uncertain. Two recent publications have begun to clarify the situation. The first is the report by DeCosse, et al that a daily wheat fiber supplement decreased the recurrence rate of adenomatous polyps in a group of familial polyposis patients.⁸ The second is the finding by Alberts, et al that wheat bran fiber inhibits rectal mucosal cell proliferation and DNA synthesis in patients with a history of rectal colon cancer.⁹ A recent review by Trock, et al¹⁰ concluded that a high fiber, vegetable-rich diet is associated with decreased risk of cancer, but the relative roles of fiber versus other food constituents remain uncertain. It does appear that it is the pattern of eating and not any one dietary constituent that is important. This point is stressed as part of the overall American Cancer Society dietary guidelines.

Limit consumption of alcoholic beverages, if you drink at all

Heavy alcohol consumption frequently is accompanied by cigarette smoking. Such persons are at high risk for head and neck and esophageal cancer. Some evidence also links alcohol and breast cancer, but this is still controversial. Cirrhosis of the liver, alcohol abuse and liver cancer are also inter-related but the mechanisms of this relationship remain uncertain.

TABLE 1 — American Cancer Society Dietary Guidelines 1990

1. Maintain a desirable body weight.
2. Cut down on total fat intake.
3. Include a variety of vegetables and fruits in the daily diet.
4. Eat more high fiber foods such as whole grain cereals, legumes, vegetables and fruits.
5. Limit consumption of alcoholic beverages, if you drink at all.
6. Limit consumption of salt cured, smoked, and nitrite preserved foods.
7. Eat a varied diet.

Limit consumption of smoked, salt-cured, and nitrite-preserved foods

When meat is smoked by traditional means, a variable amount of carcinogenic tars are absorbed, and some evidence suggests a relationship between salt cured, pickled, and nitrite-containing foods and cancer of the upper gastrointestinal tract. It is therefore prudent to limit these foods in the diet. Also, high temperature cooking (frying, broiling) may create mutagenic substances in meat, fish, and chicken, so that lower temperature cooking methods are advisable.

Eat a varied diet

No single food component has been conclusively linked to a spe-

One of the largest clinical prevention trials involves almost 30,000 Finnish subjects and focuses on the potential preventive effects of vitamins A and E on lung cancer in heavy smokers.

cific cancer type. It is therefore important to eat a diet containing a variety of foods adhering to the guidelines to obtain maximum lifetime benefit.

Clinical Prevention Trials

Efforts are now underway to refine dietary guidelines with the ultimate goal of producing more precise dietary preventive advice for individuals at risk for specific cancers. A low fat dietary trial in breast cancer prevention is being discussed by several national organizations, as is a high fiber dietary trial in colon cancer prevention. The linear array for chemopreventive agent development at the NCI will produce a continuing supply of new agents for clinical trials in the future. The NCI recently approved a concept for the development of "designer" prevention drugs which will stimulate even more clinical research.

Over 20 clinical prevention trials are currently being conducted around the world. These trials focus on lung, breast, colon, skin, and other cancers. Intervention agents being tested are a number of natural and synthetic vitamins, minerals, and non-nutrient chemicals. The largest of these trials involves almost 30,000 Finnish subjects and focuses on the potential preventive effects of vitamins A and E on lung

cancer in heavy smokers. This trial is a collaborative effort between scientists in the United States and Finland.

These prevention trials will be completed in the next few years. New trials will be devised as new preventive agents and strategies are developed. True progress in cancer control will occur as the results of these trials become available.

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Clinical Nutrition Education in Georgia and the Southeast — A Model for the U.S.

Elaine B. Feldman, M.D., Jane M. Greene, M.S., R.D., L.D.

TEN YEARS AGO, in the *Journal*,¹ we reported on nutrition education at the Medical College of Georgia and Emory University School of Medicine. In this update, we will review the current status of nutrition in the medical curriculum at MCG, in the other Georgia medical schools, and in the Southeast, with some attention to the national scene. Have we made progress in the last decade? What should our goals be for nutrition teaching and training of physicians in the current climate of HMOs, ambulatory care, and cost containment, in a setting of problem-based learning and case studies, not to gainsay simulated patients and computer-assisted instruction?

The realization expressed in 1980¹ "that malnutrition also includes overnutrition, that diet-related diseases are major health hazards, that nutritional support should be a part of treatment of trauma, sepsis, cancer, etc., and that our knowledge of human nutritional requirements remains incomplete" continues to

Training in this medical model inpatient and outpatient setting qualifies the medical students, residents, and fellows to complete the nutritional evaluation of the patient, with a nutritional assessment, diagnosis, and prescription.

apply today and for the foreseeable future.

1990-91 MCG Nutrition Curriculum

Nutrition is taught in two ways — as part of other basic science courses and clinical clerkships, and

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as a component of Introduction to Clinical Medicine (ICM) in the second year. For the most part the subject is taught by the faculty of the Nutrition Section of the Department of Medicine, consisting currently of three physicians, one nutritional biochemist, and two nutritionist-dietitians. Thus, some nutrition topic is covered in Biochemistry (variable, rarely referring to nutrients or foods, mostly to molecules), Physiology (macronutrients, energy, body composition), Pathology (cancer and sepsis), Pharmacology (vitamins), and Physical Diagnosis (nutritional assessment). The "core" topics in ICM this year are: hyperlipidemia and atherosclerosis risk, eating disorders, nutritional assessment, diagnosis and prescription, hospital malnutrition, the hospital diet, pregnancy and lactation, disorders of middle and later life, and nutritional anemias. While lecturing to the class of 180 students is the main format, the dietitian will also take a diet history (24-hour recall) from

a medical student volunteer and demonstrate how to measure body fat by impedance on another volunteer.

We also have a microcomputer program to analyze food intake records² that will be available to students in the Library so that they can evaluate the nutrients in their own diets or their patients'. For many years Dr. Terrence Kuske, a physician in the Section, has surveyed the students' lipids as freshmen and as seniors, including measurements of cholesterol, triglycerides, HDL-cholesterol and calculating LDL-cholesterol, along with their body height and weight, blood pressure, and triceps skinfold thickness. This not only personalizes their education but also is useful to identify students with hyperlipidemias that have included familial hypercholesterolemia, type 3 dysbetalipoproteinemia, and type 5 hyperlipoproteinemia.

In the medicine clerkship, students attend lectures on hyperlipidemias, nutritional and metabolic problems in alcoholism (protein-energy, vitamin and mineral), and enteral and parenteral nutrition, tasting products for the former. The fourth edition of the *Parenteral Nutrition Handbook for Adult Inpatients*,³ published in May, 1990, is distributed to all new house officers and interested faculty and is available at the MCG Bookstore for students. A second edition of a similar *Enteral Nutrition Handbook* is in preparation by the dietary department of MCG Hospital.

We offer a four-week elective in clinical nutrition to junior and senior medical students in which they work as members of the Nutrition Consult Service. The group includes a medicine resident, a nutrition or other (gastroenterology, metabolic-endocrine, or nephrology) fellow, a supervising physician faculty member, and a faculty nutritionist. From time to time, a

pharmacist or Pharm.D. resident has participated as well. The team sees all patients prescribed parenteral nutrition on the medicine service and answers requests for consultations in nutrition-related areas. In 1990, the consult service saw 305 inpatients. One or two medicine residents are assigned or elect this 1-month nutrition rotation throughout the year. Similarly, the gastroenterology and metabolic-endocrine fellows spend 1 month in nutrition. This year nephrology and pulmonary fellows have elected a rotation in nutrition. Students, residents, and fellows also see patients in the weekly Nutrition and Lipid Clinics under the supervision of one or two attending physicians and work with a nutritionist. Nutrition Clinic patients primarily have eating disorders, whereas Lipid Clinic patients have some type of hyperlipoproteinemia, and many are participating in experimental lipid-lowering drug and diet studies. In 1990, there were 730 patient visits with nutrition-related diseases seen in Lipid and Nutrition Clinics and by the three nutrition physicians in the MCG Faculty Clinic.

Training in this medical model inpatient and outpatient setting qualifies the medical students, residents, and fellows to complete the nutritional evaluation of the patient, with a nutritional assessment, diagnosis, and prescription. This includes the obtaining of an appropriate medical, social, and diet history, the physical examination with attention to signs of nutritional disorders, performance and evaluation of anthropometric measurements, obtaining and interpreting nutritional laboratory tests, evaluating the energy, protein, and other nutrient requirements of the patients, the appropriate route of feeding, the specific diet or nutrient prescription, and the monitoring and surveillance of the patient. Specifically, the physician needs to query the patient about long-term and re-

cent food intake and body weight and realize that height and weight are vital signs. The skinfold thickness is a clue to calorie stores, whereas arm muscle circumference indicates somatic protein status in contrast to the levels of visceral proteins (serum or plasma albumin, prealbumin, retinol-binding protein). An evaluation of normal or mild, moderate, or severe energy or protein deficiency permits the evaluator to decide on the urgency and level of nutrition support and the need for special biochemical tests of micronutrient status. The student/resident/fellow learns the value of referring the patient to a dietitian and is able to counsel the patient in nutrition-related medical areas, leaving for the dietitian advice directly related to prescribing or denying specific foods and requiring knowledge of nutrient contents of these foods.

Other nutrition educational activities include medicine noon conferences and grand rounds in nutrition (seven this academic year) addressed to the house officers and faculty. This year's conferences targeted critical care nutrition, nutrition support in medical patients, effects of enteral and parenteral nutrition on the gastrointestinal tract, diet and cancer prevention, cholesterol education and fiber, food labeling, and ethical issues in nutrition support. Distinguished outside speakers expert in their fields provided the majority of these programs. In addition, conferences have been given by MCG nutrition faculty to the Intensive Care Units staffs, the Cardiology fellowship training program, and the dermatology program.

Continuing education in nutrition for physicians, sponsored by MCG, combines invited guest speakers and MCG nutrition and other faculty. The annual 3-day course at Hilton Head, "Frontiers in Nutrition," has reviewed topics such

as pediatric and geriatric nutrition and nutrition in pregnancy, obesity, malabsorption syndromes, renal failure, cystic fibrosis, AIDS, and enteral and parenteral nutrition in adults and children. The 1991 program, April 26-28, will include speakers and workshops on diabetes mellitus, atherosclerosis risk and hyperlipidemias, dietary fiber, parenteral nutrition in gastrointestinal disorders, nutritional anemias, obesity, and body composition. In recent years, the majority of speakers have been chosen from the Southeast.

The MCG Hospital Nutrition Committee currently concerns

itself with quality assurance of nutrition care by the dietetic and nutrition consult services. A new hospital dining facility opening early in 1991 will be used as a model to provide tasty, nutritious, and healthy food to staff, patients, relatives, students, house officers, and faculty in an attractive setting. Subtle and not so subtle forms of nutrition education will be provided in an effort to improve eating habits. The latest charge to this committee is to evaluate, recommend, and monitor the food in the campus vending machines.

The Graduate School at MCG now offers a Masters of Clinical Nutrition program. Graduates of this program

will be able to assist in the training of other health professionals in clinical nutrition, as well as provide clinical services.

The nutrition program at MCG has been supported not only by the University system budget to the Medical School and Hospital, but also by extramural funding from the Department of Health and Human Services and the National Institutes of Health (NIH). In addition, the creation by the Board of Regents in 1980 of the Georgia Institute of Human Nutrition (GIHN) at MCG enabled a program of nutrition education of the public, the granting of advanced degrees, and the ability to solicit funds from private sources.

TABLE 1 — Nutrition Curricula in SERMEN Schools

<i>Schools</i>	<i>Nutrition Base</i>	<i>Hours Other Courses</i>	<i>Yes/No</i>	<i>Required Course Hours</i>	<i>Year</i>	<i>Total Hours</i>
Alabama						
1 '90*	Department	40	Yes	54	1	94
2 '85	—	26	No	0	—	26
Florida						
1 '90	Medicine Section	18	Yes	24	2	42
2 '85	Epidemiology Division	13	No	0	—	13
3 '85	Medicine Division	—	No	0	—	—
Georgia						
1 '90	Medicine	18	Yes	16	1	34
2 '89	Gerontology Biochemistry	Variable problem-based	No	0	—	—
3 '85	Family Medicine	52	Yes	10 Self-Study	2	62
4 '90	Medicine Section Institute	40	Yes	8	2	48
North Carolina						
1 '89	Medicine & Family Medicine Section	43	Yes	15	1	58
2 '89	Medicine/Biochem Division Institute	65	No	0	—	65
3 Provisional	Preventive Medicine	—	—	—	—	—
South Carolina						
1 '89	Medicine Endocrinology, Metabolism & Nutrition	23	Yes	20	3	43
2 '90	Family Medicine	13	No	0	—	13
Tennessee						
1 '89	Surgery Division	35	Yes	24	1	59

The GIHN Board of Advisors includes Georgians who are interested in the advancement of nutrition. They have supported such activities as the bimonthly newsletter "Food for Thought" (Tom's Foods, General Mills, Southern Frozen Foods), the general program (Coca Cola, Elson's), nutrition workshops in Augusta for the lay public, school system, nursing homes, etc. (Lenox Optical, Merck Sharp & Dohme, Merrell-Dow, Nutra-Sweet, Shapiro Packing, and Castleberry Food Co.). Regional chapters have carried on similar work in Atlanta and Albany.

Other ways to interest medical students in nutrition include the opportunity to develop and participate in summer research projects. Students have been involved recently in projects in cardiovascular risk,⁴ antioxidants and multiple sclerosis and nutrients (minerals and vitamins) in relation to blood pressure.^{5,6} In 1990, a medical student won the national nutrition prize of the American Society for Clinical Nutrition for her study showing the inverse relation of blood ascorbic acid levels to blood pressure in healthy Augustans.⁶

Nutrition Education in the Southeastern Regional Medical Nutrition Education Network (SERMEN)

SERMEN was developed in 1984 as a consortium of the 11 medical schools in Alabama, Florida, Georgia, and South Carolina to coordinate and improve nutrition education.⁷ The Central Office has been at the Medical College of Georgia and will move to Emory University School of Medicine in July, 1991. Students, faculty representatives, and consultants in nutrition education and computer networking have worked together on projects coordinated and planned through semiannual meetings.

A standardized examination was developed with the Nutrition Test-

Item Bank at the University of Alabama-Birmingham which also served as the testing office for SERMEN. Nutrition knowledge of medical students from network schools was tested with this examination in a representative sample of entering freshmen, at the end of the basic science years and at graduation. The examination incorporates questions addressing seven topics selected unanimously by the SERMEN representatives: hospital malnutrition, nutrition in surgery, trauma and infection, obesity, major minerals, nutrition in diseases of the oral cavity and gastrointestinal tract, cell growth, infancy and adolescence, and pregnancy, lactation. The performance of the senior students was variable and correlated with student assessment of the quantity and quality of their nutrition education.⁸ In contrast, the scores of the entering freshmen were remarkably homogeneous, and nutrition knowledge was significantly higher for seniors than for the freshmen at all schools.⁹ Scores after preclinical training also were higher than the freshmen's and varied with the amount of required nutrition teaching. Interestingly, the positive attitude of freshmen toward nutrition is lost after preclinical training and is only partially regained after the clinical years.¹⁰ In 1990, the schools completed a prospective study of cohorts of that graduating class that were tested as freshmen, sophomores, and seniors — the data are currently under analysis.

SERMEN has increased to 15 medical schools with the addition of schools from North Carolina and Tennessee (Table 1). Nutrition is based in departments of medicine, family medicine, preventive medicine, biochemistry, and nutrition. Eight schools offer a required nutrition course that varies from 8 to 54 hours. The sharing of experiences and the example of other programs have led to improved nu-

trition-education offerings on several campuses in preclinical, clinical, and residency levels. Faculty from one campus lecture in courses on other campuses, and there has been exchange of faculty (sabbatical) and students among campuses. Changes in course content and teaching methods have been initiated on most campuses in response to lower test scores in certain topic areas in the SERMEN examination. Detailed information useful for teaching defined nutrition topics in existing courses has been shared among schools.

The skinfold thickness is a clue to calorie stores, whereas arm muscle circumference indicates somatic protein status in contrast to the levels of visceral proteins.

The current focus is the development of nutrition cases to serve as the basis for a standardized nutrition curriculum for medical schools. Cases currently are under development in the topics of hyperlipidemias, atherosclerosis, critical care nutrition, cancer, renal disease, pancreatitis, malabsorption, obesity, pregnancy, and lactation. The goal is to develop appropriate, reviewed, and critiqued nutrition education materials to cover the topics considered essential for the nutrition education of physicians (Table 2).

National Medical School Nutrition Curriculum Activities

A Committee on Nutrition in Medical Education established by the Food and Nutrition Board of the National Research Council examined three major issues: how and

the extent to which nutrition was incorporated into medical curricula; what percentage of medical schools teaches nutrition; how successfully nutrition is taught, and the reasons for success or failure. Their report, published in 1985,¹¹ recommended that an independent, designated course in nutrition should be required by all students. According to the Association of American Medical Colleges, only 34 medical schools, or 27%, had a required nutrition course in 1987-88,¹² a figure unchanged from 1983-84.¹¹ A separate department or division of nutrition in each medical school was recommended. In 1987, there were only two such medical school departments.¹³ Their third recommendation was to incorporate more nutrition in the National Board examination.

A major role in the national medical nutrition education scene has been played by the American Society for Clinical Nutrition (ASCN), primarily via its Committee on Medical/Dental School and Residency Education. The ASCN Committee, following the example of the New York-New Jersey Regional Center for Clinical Nutrition Education,¹⁴ proposed the establishment of SERMEN. The Committee's workshop in 1987 for directors of medical nutrition programs discussed strategies for introducing nutrition into the curriculum.¹³ Recommendations included: making nutrition relevant, useful, and clinical; starting early and introducing nutrition concepts with reinforcement at the bedside by physician role models; taking advantage of student, patient, and public interest in nutrition; involving students and faculty in nutrition research; using the skills of the dietitian. The ideal leader is a physician who recruits a team. The core curriculum of key topic areas, should take 15-30 hours in the preclinical years, and requires a text or syllabus and a ref-

TABLE 2 — Nutrition Topics Essential in a Medical School Curriculum in Priority Order

Obesity
Diet, Hyperlipidemia and Atherosclerosis
Lipids (Including Cholesterol)
Diet and Diabetes
Pregnancy, Lactation
Water, Electrolytes, and Acid-Base Balance
Major Minerals
Carbohydrates, Fiber
Vitamins
Proteins and Amino Acids
Cell Growth, Infancy, Adolescence
Nutrition and Immunity
Nutritional Assessment & Support; Hospital Malnutrition
Nutrition in Surgery, Trauma and Infection
Diet and Hypertension
Body Weight, Body Composition and Energy Balance
Geriatrics
Nutrition and Cancer
The Gastrointestinal Tract: An Overview of Function
Criteria of an Adequate Diet
Nutrition in Diseases of the Oral Cavity and GI Tract
Hormonal Control of Nutrient Metabolism
Nutritional Anemias
Drug-Nutrient Interactions
Trace Minerals
Nutrition and Alcohol, Other Substance Abuse

erence body of audiovisual materials.

Later reports of Committee activities focused on priorities for nutrition content in a medical school curriculum¹⁵ and implementing nutrition into the medical curriculum.¹² The report of a national consensus conference of medical nutrition educators held in 1988 established guidelines for core content of nutrition course work in medical school. Of 42 major topics, 26 were considered essential or must be included in the medical school curriculum (Table 2), 6 were important, 8 were desirable, and 2 were rated unacceptable.¹⁵

A national symposium of nutrition educators in 1989¹² concluded that to initiate and integrate nutrition education in the medical curriculum requires: a review of the content and quality of nutrition-re-

lated topics in the curriculum; identification of faculty with interest and expertise in nutrition with a scholarly nutrition educator designated to develop and coordinate the nutrition program at the institution; integration of nutrition information in a streamlined, non-redundant, current curriculum within existing courses or development of a separate course that allows elimination of some existing teaching hours; and taking advantage of the new recommendations such as more training in ambulatory care and preventive clinical services, use of small group tutorial sessions, problem-based learning, independent study, and computer-assisted instruction. Nutrition is not another subspecialty topic, but rather is a theme of scientific principles for the study and practice of medicine.

The Public Health Service's year

2000 objectives for the nation's health¹⁶ and the National Nutrition Monitoring Act passed in 1990 extend the provision and requirement of courses in human nutrition to all medical and dental schools. Thus, there is a mandate to introduce or to expand the role of nutrition in the medical curriculum.

Conclusions and Recommendations

In this last decade at MCG, with the continued support and encouragement of the chairman of the Department of Medicine, who established the Section of Nutrition, and help from successive deans of the School of Medicine and presidents of MCG, nutrition education has made progress. A visible administrative unit, enhanced by an Institute, enabled a budget unit and authority to solicit funds and offer degree programs. Fewer medical students electing nutrition as the elective program months declined overall were more than balanced by an increase in medical residents and fellows assigned to or electing nutrition. Ambulatory patient visits to Nutrition Section physicians have increased 50%. That, along with a 10% annual increase in patient samples in the Nutrition laboratories, provides a prosperous and busy milieu to relate to clinical nutrition education. The master's program offers another academic view of nutrition and a window for physicians-in-training to the clinical science of nutrition. Our facilities are larger and better with more equipment (especially microcomputer) replacing hard-to-find trained personnel in office and laboratory. While we no longer publish a nutrition newsletter and calendar, we have published a textbook in clinical nutrition¹⁶ that embodies the

topic areas essential to the core medical nutrition curriculum. With the popularity of the National Cholesterol Education Program, our clinical, laboratory, and speaking services are more in demand than ever. Nonetheless, our curriculum hours remain the same. We have not yet achieved our goal of a required course in nutrition in the School of Medicine. On the other hand, our practice of "infiltrative nutrition" continues unabated and "Frontiers in Nutrition" attracts a good audience every year, although dietitians attending still outnumber physicians.

How can we improve? "Persevere, be tenacious and optimistic with a missionary zeal." These remarks made in 1983¹⁴ are still relevant. Be lucky enough to attract increased or new support from one of the foundations (Pew, Heinz) strongly supporting nutrition, or additional support from the National Dairy Council or National Livestock and Meat Board that have supported regional or national nutrition education activities, or from the Donner or Ruth Mott foundations that have assisted SERMEN and the New York-New Jersey nutrition network. Support for medical nutrition education in relation to cancer is provided by the National Cancer Institute. The NIH, through the Clinical Nutrition Research Units, supports centers who must provide nutrition education as a component but find the fiscal support for the education program elsewhere.

Finally, there still is no greater reward for a teacher than the perception by your graduates or former elective students, now primary caregivers, mostly in Georgia, that a good education in nutrition was

provided to them at MCG and is useful in their practice.

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Nutritional Care of Hospitalized Patients

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THE NUTRITIONAL CARE provided to hospitalized patients has focused primarily on providing the appropriate food to patients while they are in the hospital. This care has evolved from feeding patients beer and bread in the 18th century to the use of sophisticated enteral formulas and intravenous hyperalimentation. Since today's hospitalized patients are sicker and their hospital stays are shorter, optimal nutritional care must be provided in the most cost-effective manner available. Ignoring nutrition even for a short time can result in malnutrition marked by negative nitrogen balance and significant electrolyte and mineral losses.¹

Brief History of Feeding Hospitalized Patients

The word "hospital" comes from the Latin word "hospes," meaning guest; however, the treatment of patients in many early hospitals was hardly guest-like. Sanitary conditions within these institutions were quite poor, and it is possible that

Since today's hospitalized patients are sicker and their hospital stays are shorter, optimal nutritional care must be provided in the most cost-effective manner available.

these poor conditions were the cause of some of the sickness and mortality.

The food served in these hospitals was basically the same each

day and consisted mainly of meat, broth, bread, and beer. Because milk and water supplies were often contaminated, and because coffee and tea were available only to the wealthy, beer and ale became the standard beverages of the sick. Fruits and vegetables were thought to have little importance in the diet and were rarely served. Dietary restrictions were often used as a means of discipline for patients who complained about the food.

The need for varied diets arose as more was learned about the treatment of diseases. Fevers were common, so gruels and porridges were substituted for heavy solid foods. Since these foods were inexpensive and easy to prepare, they were often included in other hospital diets.²

There was little change in hospital food service until the end of the 19th century. At this time, special diet kitchens were established where student nurses worked, and steam tables were installed to help serve hot food to patients.³

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The challenge of providing nutritious, palatable meals to patients is still with us today. Patients in the hospital are in different states of health, have different nutrient needs, prefer different foods, and react differently to medical procedures and care. Recognizing and treating those patients who are at most risk of malnutrition can certainly improve their chances for recovery.

Recognizing the Nutritionally Depleted Patient

Concern about the poor nutritional status of hospitalized patients has arisen since the alarming discovery that from 30-65% of hospitalized patients surveyed in the 1970s suffered from a significant degree of malnutrition.⁴ This interest has led to the development of the nutrition support service. This service in many medical centers can provide a very sophisticated nutritional assessment of patients; however, there are numerous other parameters which can be employed in any hospital. These include findings from anthropometric, biochemical, and historical data.

Anthropometric Data

These techniques may be used to identify normal, malnourished, and severely malnourished patients with the least amount of staff, equipment, and complicated techniques. The anthropometric measurements which can indicate skeletal muscle protein and fat status are height, weight, triceps skinfold thickness (TSF), and arm muscle circumference (AMC).

Biochemical Data

Several biochemical tests which are included in routine lab work can be helpful in identifying nutritionally depleted patients.

Albumin and Transferrin

Low serum albumin and transferrin levels are constant features of kwashiorkor and are also useful

measurements of significant visceral protein deficit in adults.⁵ Because transferrin has a more rapid turnover rate and equilibrium, it is the more sensitive indicator. If the laboratory does not have the equipment necessary to determine transferrin levels directly, an equation using total iron binding capacity can be used. Because decreased albumin and transferrin levels may also be due to renal, GI, or liver disease, they should be used in conjunction with other indicators of diminished nutritional status.

Urinary Creatinine Excretion

The creatinine height index (CHI) provides a means of assessing the nutritional status of the metabolically active tissue by allowing a comparison between expected body cell mass for height and actual body cell mass.⁶

Measuring Immune Status

Various forms of malnutrition have been associated with depression of the immune system. The total number of lymphocytes decreases as protein depletion occurs, so the total lymphocyte count is a useful index in nutrition assessment.⁷

Historical Data

Historical data are an extremely important part of the nutrition assessment. The physician's medical history as well as the dietitian's diet history can identify various risk factors for poor nutrition status. A drug history is also important because certain classifications of drugs can influence nutrition status.

If the laboratory does not have the equipment necessary to determine transferrin levels directly, an equation using total iron binding capacity can be used.

Table 1 summarizes the information needed for assessing a patient's nutrition status. These data can be provided by the registered dietitian who can also determine the patient's caloric needs by employing the Harrison-Benedict formula for Basal Energy Expenditure (BEE). A nutrition care plan can then be formulated and implemented.

Current Trends in Feeding the Hospitalized Patient

In keeping with the update nutrition knowledge available to the general public in magazines, newspapers, and television, hospital food service departments are changing menus, delivery systems, and even serving times to accommodate their customers. Food service directors are developing a master plan to bring patients and staff innovative menu selections within budget realities by using the latest knowledge in food product development, waste management, computers, and personal electronics.

Rare is the office of the hospital food service director that does not contain a personal computer. PC programs are available for control

TABLE 1 — Data Useful for Determining Nutrition Status

Height-Weight	Serum Transferrin
Weight Change	Lymphocyte Count
Triceps Skinfold Thickness	Medical History
Arm Muscle Circumference	Diet History
Creatinine Height Index	Drug History
Serum Albumin	

of menus, inventory, recipes, scheduling, and nutritional analysis. Nutritional analysis programs are useful for analyzing a patient's current intake as well as the nutrient composition of modified and general menus. Many food distributing companies are able to link with the hospital food service director, and food orders can be processed in a fraction of the former time. Increased control of inventory and scheduling leads to a more varied menu selection for both patients and hospital staff. Hospitals conduct frequent survey of patients' food acceptance, including their menu preferences and requests.

Patient tray appearance, a key factor in meal acceptance, has been updated to resemble a restaurant meal. Careful scrutiny over food colors, textures, and even aromas assures increased patient acceptance. Garnishing has brought its artform to the patient tray, increasing eye appeal as well as increasing tray acceptance.

More than half the patients being admitted to a hospital today state they are modifying their diets at home. These include the more strict diet regimens of the diabetic and renal patients as well as those who are avoiding saturated fats, cholesterol, sodium, and caffeine in an effort to improve their lifestyle and reduce their risk for disease.

Standard admission diets in hospitals contain foods that could be allowed on most diet restrictions. They usually consist of a protein source, a vegetable that is not cooked in fat, a starch choice of potato, rice, or noodles, and fruit that is canned without sugar. The beverage is usually a low caffeine, if not decaffeinated tea. Condiments are added per the diet order. Selective and restaurant style menus are standard, with patients being able to select their own meal choices on a daily basis. These same menus are then reviewed and if necessary corrected to the diet prescription by Nutrition Assistants in the menu control area.

In the interest of health promotion, as well as guest relations, hospitals have updated their cafeteria offerings to include recipes reduced in fat, cholesterol, and salt. Fruits packed without sugar are the norm. Self-serve salad bars, potato bars, and taco bars are becoming more popular along with increased requests for low-fat soft-serve frozen yogurt bars.

Patients being discharged from the hospital no longer receive a simple list of foods to avoid and/or foods that are allowed as their "diet instruction." Information alone is often not enough to cause or enable a person to improve his or her eating habits and nutritional status. Patients must assume the respon-

Current events that may play an important role in the future of health care delivery will include the war in the Persian Gulf involving potential loss of personnel to the armed forces, increased costs of food items due to increased oil prices, and potential scarcity of some commodities.

sibility for their own behaviors. The benefits of improved nutrition habits may not be directly experienced as in the case of an averted illness. The goal is to promote variety of food selection and to be sensitive to the range of acceptable choices associated with ethnic, economic, geographic, and age variations in our society. Nutrition counseling, the process by which patients are most effectively helped to acquire more healthful behaviors, guides the patient to assume the responsibility of learning skills for managing his or her own dietary habits.^{8,9}

With the supermarkets flooded with numerous products all claiming to be "low in cholesterol," "natural," "organic," or even "diet," patients are susceptible to the advertising "hype," and may be prone to spend their food dollars foolishly. The Registered Dietitian spends time with patients and their families explaining how to analyze food labels and advertising claims in order to choose products wisely and correctly. For example, a label stating the product contains "no cholesterol," may not indicate that other fats, especially saturated fats, are in the product, perhaps even exceeding the recommended 30%

TABLE 2 — National Nutrition Guidelines

1. Eat a variety of foods
2. Maintain a desirable weight
3. Avoid too much fat, saturated fat, and cholesterol
4. Eat foods adequate in starch and fiber
5. Avoid too much sugar
6. Avoid too much sodium
7. If you drink alcoholic beverages, do so in moderation.

American Dietary goals:

50% of total calories to be derived from carbohydrate sources, especially complex carbohydrates

20% of total calories to be derived from protein sources

30% of total calories to be derived from fat sources

of calories as suggested by the national nutrition guidelines (Table 2).

Physical fitness continues to be of popular concern to a large part of the population. Today's Registered Dietitian works hand in hand with the exercise physiologist in assessing a patient's nutrient needs to go along with their exercise program, whether their goal is to lose weight, gain weight, reduce risk factors, or train for athletic competition.

Trends for the Future

As our nation looks for ways to prevent disease and to improve health care delivery systems and the quality of care for our citizens, the science of nutrition becomes more important.

Current events that may play an important role in this future will include the war in the Persian Gulf involving potential loss of personnel to the armed forces, increased cost of food items due to increased oil prices, and potential scarcity of some commodities.

Another factor influencing our future is the U.S. Census Bureau's prediction of population distribution changes toward the South. Georgia is one of the six states expecting an increase in population of over 14% during the 1990s.¹⁰ This influx will have an impact on the number of patients seeking care in Georgia's hospitals.

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Successful Obesity Treatment, or How to Manage the Unmanageable

J. Thomas Cooper, M.D., M.P.H.

IN AN EARLIER article,¹ it was pointed out that attitudes of the physician toward overweight patients can either make or break any weight reduction treatment program. The successful management of any obesity problem requires a plan of treatment that takes into consideration the environment in which the patient lives, the pathophysiology of that particular patient's obesity, any associated active conditions (hypertension, diabetes, gout, elevated lipids, etc.), and the motivation that brought him or her into your office to begin with.

A realistic attitude on the part of physician and patient is of great importance. The patient has to realize that "there are no free lunches" in a fat loss program. You don't lose fat if you don't work at it! You *can't* lose more than one or two pounds of real fat (versus weight) a week without causing severe physical and psychologic damage, because the **WEIGHT** you often lose is not **FAT**, but **PROTEIN**.

The physician has to realize that

The physiology of the obese patient has been studied extensively, and one abnormality that stands out is a reduced turnover of noradrenaline.

some of the psychologic and physiologic drives causing the patient to eat are often quite difficult to resist. When the patient has a problem eating episode, this should not be taken as a personal affront to the physician. There are no perfect patients and no perfect doctors, so the all-or-none personality who quits completely at the first sign of problems needs to be counselled prior to the starting of any eating program, so as to avoid this type of failure.

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Some of the traps and dangers of obesity and its treatment are given here in the form of questions and answers:

1) *Does the obese patient have a low metabolism that needs to be "adjusted" with thyroid?*

The answer is probably "not in most cases." Garrow² has shown that the overall energy expenditure of most obese persons is actually greater than their lean counterparts, partly as a result of the increased lean body mass accumulated along with the excess adipose tissue.

Patients going on a hypocaloric diet program show a gradual fall in serum T3 levels with a corresponding increase in rT3, the inert isomer. This appears to be a physiologic response of the body designed to spare lean body mass.³ The addition of thyroid hormone in an essentially euthyroid individual trying to lose unwanted fat should be avoided as an exercise in futility. Any such "weight" lost through such treatment is more likely to be lean

tissue than fat. If a physician feels that there is a hypothyroid condition, the newer sensitive thyroid-stimulating hormone and free T4 assays should confirm or deny true hypothyroidism.

BMR is almost always equivalent in obese and lean patients, and correlates with the amount of lean body tissue. A safer way, but by no means an easy way, to induce increased BMR in the obese patient, is increased aerobic exercise, with walking (not running or jogging) as the primary activity. About 20 to 30 minutes a day of walking is the ideal time. It takes a lot of encouragement and continuing reinforcement to keep the average patient walking on a daily basis. Don't be discouraged if compliance seems to be lagging. I have often said that some of my patients will almost literally kill to avoid walking extra distances.

The daily aerobic exercise will gradually induce muscle hypertrophy and thereby increase the BMR. Patient education is vital here to avoid disappointment. If muscle "weight" on the scale balances with fat weight loss, there may appear to be no progress, and the patient will quit. Each physician must teach the patient what to expect and should stress changes in body size and looseness of clothing, rather than changes in scale weight.

2) *If patients are going to regain all their weight, why treat them at all?*

A physician should look at an obese patient in the same light that he or she looks at someone with hypertension, alcoholism, diabetes, gout, elevated lipids, or recurrent peptic ulcer disease. THERE IS NO CURE! I repeat, YOU CAN'T CURE AN OBESE PATIENT! However, this does not mean you can't try and help them control their body weight as much as possible.

Obesity is a chronic disease that will emerge and remain a problem, once the stress situation that unmasks it occurs. Most obesity can

be dated from an episode of stress, such as pregnancy, surgery, an infectious disease, marriage, divorce, change of job, or similar situations. Once it appears, it almost never spontaneously goes away.

An attitude of tolerance and understanding of what the patient is going through is vital, or there will be treatment failure, with the patient suffering the consequences.

3) *Is there anything in the physiologic makeup of a patient that would aid me in treating his or her obesity?*

Yes, there are some things that can help the treating physician, but none are primarily important. One of the primary measures is to rid the diet of as much sucrose and fat as possible. Experimental animals, when fed a diet high in fat or sucrose, were usually unable to regulate energy balance, ingesting more than those on normal diets and developing obesity.⁴

Those who would advocate the free use of either of these foodstuffs, particularly sucrose, should note the parallel between alcoholics who take "just one drink" and the so-called "sweetaholic" who takes "just one bite" of a sweet. The results are disastrous in both instances. Nevertheless, I still see books that recommend no restriction and free use of sweets and fats so as to not harm the psyche of the dieter. It is evident that restriction of excess fat to less than 20 to 30% of the dietary calories, and of total restriction of sucrose when possible, is a necessary thing.

The second physiologic effect is a relatively straight line reduction in hypertension and cholesterol levels as excess weight loss occurs. The dietary management of both problems, plus related ones, seems to be far superior in a great majority of cases. There is an immediate drop in both systolic and diastolic pressures that seems out of proportion to the drop in fat mass. This could be related to the decreased

sodium intake, or to some other factor, but it seems to be a prevalent effect.

4) *Should I consider using appetite suppressants to take weight off my patients?*

If that is all you use, the answer is a flat no. The failure rate of anorectics and a "diet sheet" as the only measure in obesity management is dismal.

A good review article by Weintraub and Bray⁵ covers some attitudes of physicians and regulatory agencies. They say that: "Obesity is the only analogous clinical setting where failure of medications to achieve cure is unacceptable." No responsible physician would prescribe these medications, especially the forbidden Schedule II drugs, if there is not at least a significant clinical response (SCR) from the patient. Overusage of any anorectics, or diversion to illegal channels, must be constantly watched for and avoided.

5) *Does that mean I should never use these medicines, even with responsible patients?*

Use them correctly or not at all. The physiology of the obese patient has been studied extensively, and one abnormality that stands out is a reduced turnover of noradrenaline (NA). The blood levels of NA are lower in the overweight patient both before, during, and after weight reduction.^{6,7}

This would tend to indicate that the sympathetic nervous system could be somewhat defective in obese subjects. The problem may be an inability to activate and utilize thermogenic tissues, which is normally seen post-prandially in the thermal effect of feeding (TEF). Many investigators, including Bray have noted that the only difference between obese and lean patients in their metabolism is the TEF factor.

Lean people appear to "turn on" their facultative thermogenic machinery in response to increased amounts of foodstuffs over and

above what might be needed by the body. Obese subjects are hampered in this regard and their facultative TEF responses are blunted, perhaps as a result of this reduced turnover of NA.

The positive response of many obese patients to anorectic agents may not come as much from the "appetite suppressant" effect of these medications, but from the increased sympathetic tone induced by these drugs. Agents as varied as nicotine, ephedrine, theophylline, caffeine, and beta agonists (methoxyphenamine) assist in increasing sympathetic tone, through one mechanism or another. Caffeine and theophylline are primarily inhibitors of phosphodiesterase, while ephedrine stimulates the release of NA, similar to its phenethylamine anorectic counterparts or mazindol, with the latter being closer to tricyclic antidepressant compounds.⁸

The SCR would be a factor in whether or not anorectic agents are continued in any individual patient. Patients requesting heavier and heavier doses of any medication, or insisting on a single brand of anorectic, should be looked upon with suspicion and temporarily changed to another medication, or given a rest period of several weeks. The drug diverter or addict will not tolerate this and will quit, while the seriously committed patient will go along with your directions.

The American Society of Bariatric Physicians is currently addressing possible anorectic guidelines that could be used by individual state medical boards and other regulatory agencies and is the de facto authority on obesity treatment. Those guidelines are available for the asking by writing the ASBP at 5600 S. Quebec St., Suite 160-D, Englewood, CO 80111 or by calling 303-779-4833.

6) *My patients often say that they are hungry, even on the maximum*

doses of anorectic. How should I handle this?

Certainly not with increased doses of medicine. Only about 5% of problem eating is related to hunger as such. All the rest of overeating behavior is triggered by habit, stress, environmental traps, spouse or family sabotage, or false signals of hunger.

The last one is important to warn your patients about. About 2 hours after a meal, there is a rebound of stomach acid production, sometimes producing a burning, gnawing, rumbling, or empty feeling in the patient's epigastric area. Unless the patient is warned, he or she will eat in response to this cue, instead of using an antacid or drinking water to overcome this. This produces an unwanted intake of extra calories and can sabotage a diet quickly.

An educated patient is a successful one. Making each person aware of the traps in weight loss will insure a better performance.

7) *What diet should I use to help patients reduce?*

There is no single diet that is perfect. With the exception of a controlled modified fast in the hands of a competent physician, the best diet is one with a variety of foods, that is *very* low in sucrose and fat, high in fiber, and with a large amount of fruits and vegetables. Eggs and meats high in fat should be eliminated or severely restricted for most patients. Caution should be used in diets of less than 800 kCal daily. Many patients do very well at the level of 1200 to 1400 calories and wind up losing more in the long run.

The last component of any diet should be a competent physician who sees the patient frequently. Weekly weighings, even if done by a nurse, with daily checks are a little more trouble for the patient, but are powerful inducers of success.

Above all, don't abdicate your patients' care to storefront "clinics"

that claim to be medically supervised. I recently had a patient come to me who had a laxative recommended to her by the "nurse" in one of these "clinics" when she complained of abdominal pain. The patient survived post-op, with the help of a good surgeon, but I have a feeling she would have done far better seeing her personal physician and registered dietician, or a trained bariatrician.

There are lay-run, self-help groups and organizations that can increase your patients' success rate. The University of Georgia Cooperative Extension Service has a Weight Off Wisely (WOW) program available through any county extension service. The WOW program is a good source of information for any physician and his or her patients. Take Off Pounds Sensibly (TOPS) and Overeaters Anonymous are also excellent and economical sources of information and support. There is absolutely no need for any of us to let our patients fall into the hands of charlatans who promise miracles, not with all the medical support and ethical lay assistance we can call upon.

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GREAT AMERICAN FOOD FIGHT AGAINST CANCER

TIPS FOR GROCERY SHOPPING

- ▶ Don't try to change eating and shopping habits overnight. Think of it as an ongoing process of good health for life. It's just not possible to learn everything about healthier lifestyles at once, so don't set an impossible task for yourself.
- ▶ Try to plan shopping as carefully as possible. Sometimes, shopping has to be done in a hurry, but try to give some thought to it ahead of time in order to minimize or eliminate impulse purchases. Besides, even a few moments of planning saves a lot of time and aggravation at the store. Spend some time in advance thinking about healthy substitutions and additions to make.
- ▶ Don't shop on an empty stomach.
- ▶ You don't have to avoid treats or rewards. Just try to think of healthy foods as special treats.
- ▶ Explore the produce section. Be adventuresome and try a new kind of fruit or vegetable. Try them one at a time, so they won't seem as overwhelming. Think of new ways to try produce, and remember that it is usually low in fat and high in fiber.
- ▶ Look for fresh herbs to season foods, instead of fats, sauces, and gravies.
- ▶ A variety of foods is important to healthy eating and will also keep shopping from seeming so routine.
- ▶ Read labels carefully. Ingredients are listed in order of quantity. Choose products that have no fats or oils, or in which fats are listed last.
- ▶ Beware of so-called "healthy" or "lite" foods. Read the labels carefully for fat, fiber, and vitamin content. Remember that you don't need to buy any special foods to improve your diet.
- ▶ Avoid processed, salt-cured, smoked, and nitrite-cured meats and foods. Always buy fresh when you can.
- ▶ Select low-fat, non-fat, and skim milk dairy products.
- ▶ Buy tuna packed in water, not in oil.
- ▶ Brace yourself for a barrage of impulse items, such as candy bars, at the checkout. Prepare in advance to resist this assault by reading a magazine, balancing your checkbook, or engaging in conversation.
- ▶ Contact your local American Cancer Society for more tips.



GREAT AMERICAN FOOD FIGHT AGAINST CANCER

TIPS FOR DINING OUT AND TRAVELING

- ▶ Select a restaurant that will offer a variety of foods and variety of choices. If a restaurant is unfamiliar to you, call in advance and inquire about menu options and methods of cooking.
- ▶ Try to pick a restaurant with a salad bar which offers many low-fat, high-fiber choices. Steer clear of high-fat toppings such as cheese, bacon bits, croutons, and regular dressings. Soup and salad make a great combination, but be sure to choose clear broth soups instead of creamy ones.
- ▶ Read the menu carefully. Avoid items that are buttered, fried, breaded, creamed, and browned. If you're not sure about a recipe, don't be shy about asking your server. And don't be afraid to ask if items can be prepared in a different manner or substituted. You can also ask that an item, such as high-fat french fries or chips or bread, not be brought with the meal.
- ▶ Always be clear about what you order. Don't assume your server knows exactly what you want.
- ▶ Always ask for sauces and salad dressing to be delivered on the side. Order breads and toast without butter or margarine.
- ▶ Lean meats, poultry, and fish are healthiest baked or broiled. Look for menu items that are roasted, steamed, poached, and stir-fried. Ask to have these items prepared without added fat.
- ▶ Cut down on portion sizes by ordering appetizers as the main course, ordering a la carte, sharing food with a companion, or taking home part of your meal in a doggie bag.
- ▶ Order desserts with less fat and sugar, such as a fresh fruit, sherbert, sorbets, frozen yogurt, and angel food cake.
- ▶ Even at fast food restaurants you can make a difference by looking for a salad bar, skipping the cheese and mayonnaise on sandwiches, eating smaller portions, and choosing low-fat milk, juice, or tea instead of shakes and malts.
- ▶ Airlines offer special meals, such as low-fat ones. Check with the airline or your travel agent before you fly.
- ▶ Keep low-fat, high-fiber snacks at work and in your car. That way you always have a smart snack on hand and can avoid vending machines. Most snack items found in vending machines are high in fat and calories.
- ▶ Contact your local American Cancer Society for more tips.



Fads and Quackery in Nutrition

Terrence T. Kuske, M.D.

THE HEALTH FOOD Industry is a huge and very profitable one, much of which is involved in recommending unnecessary food supplements. Popular diet books and diet articles constitute a substantial amount of the publishing industry as well, and the American public's interest in their nutritional health leads many to seek advice from the wrong quarters. It has often been said that it is much easier to get bad nutritional advice than sound and scientific advice.

A fad is defined as a "custom, hobby, style, etc. adopted and pursued by many people for a time, with undue zeal." A quack is defined as "one who with little or no foundation pretends to have skill or knowledge in a particular field." Quackery comprises the "actions, claims or methods of a quack, especially in medicine."¹ A synonym is charlatantry. In this brief article, we will attempt to give an overview of some of the fads and quackery associated with contemporary nutrition.

Popular diet books and diet articles constitute a substantial amount of the publishing industry, and the American public's interest in their nutritional health leads many to seek advice from the wrong quarters.

Vitamins as Miracle Drugs

The 13 known vitamins are really miraculous agents in the treatment of the deficiency syndromes, producing dramatic response in skin lesions, hemorrhagic tendencies, etc. with the administration of appropriate doses of these vitamins. There are nine water soluble vita-

mins and four fat soluble vitamins. An extensive body of research has led to a definition of what is considered the minimum daily requirement (MDR), that level below which one is at risk of developing deficiency, and the recommended daily allowance (RDA), which is normally 2 to 6 times the MDR, in order to avoid deficiency in all subjects. There have been described certain in-born errors of metabolism in which individuals, due to very rare genetic mutations, are unable to appropriately utilize vitamins, and this can be compensated for by administration of massive doses of the vitamin. These are extremely rare, with approximately 25 conditions reported to date.

The fact that the vitamin responsive in-born errors exist has led to the concept of "megadosing" with vitamins in healthy people, or to treat various diseases, the so-called "orthomolecular" approach. Supposedly, these large doses are converted to coenzymes, which satu-

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rate various apoenzymes to maximize metabolic processes. These concepts have, however, not been proven in any studies, and what has resulted instead has been the development of toxicity due to megadoses of certain of these vitamins. The fat soluble vitamins A and D are associated with serious toxicity in the high dosages not infrequently recommended by nutrition quacks. Massive doses of vitamin B6, pyridoxine, are associated with an irreversible peripheral sensory neuropathy. Large doses of vitamin C in certain individuals can result in the production of calcium oxalate kidney stones. Thus, it has become important in taking the history of vitamin intake to be assured the patient has not been taking the massive doses recommended without any scientific or medical basis.

Another area in which quackery is prominent in vitamin treatment are the "new" vitamins. Actually, no new vitamins have been discovered in over 40 years, but nonetheless these are portrayed as essential compounds. "Vitamin P" (bioflavonoids) and "vitamin B15" (Pangamic Acid) are not vitamins, as they are not essential to life, and they serve no particular function in humans. "Vitamin B15" is not defined as to its structure, so individuals can and do package and market under that name a variety of compounds, some of which have been shown to be toxic. The position of the US Food and Drug Administration is that Pangamic Acid is illegal, worthless, and possibly unsafe.²

An additional category of vitamin misuse relates to recommendation of vitamins, particularly vitamin E and vitamin B12, for conditions in which there has been no scientific evidence that they are of benefit. Examples of this include vitamin B12, recommended for treatment of fatigue or with miraculous claims for sexual performance, etc. Vita-

min E is recommended to prevent heart disease and to improve one's sexual performance. Neither of these vitamins has been shown objectively to function in this fashion.

"Super Food" Combinations

Numerous authors, part of the so-called "health food movement," have written about the miraculous effects of "super" types of foods or combinations of foods, along with beneficial effects of megavitamins in various common conditions. The books of Adele Davis, though she is now deceased, are available in most bookstores and health food stores, and individuals continue to

It is important in taking the history of vitamin intake to be assured the patient has not been taking massive doses recommended without any scientific or medical basis.

subscribe to the erroneous concepts contained therein. Ms. Davis was trained in Dietetics and Nutrition at the University of California at Berkeley and obtained a Master's Degree in Biochemistry from the University of Southern California. After an early promising career, she began writing books providing nutritional advice, with titles like *Let's Get Well* and *Let's Eat Right to Keep Fit*, which have sold over 10 million copies but are not on the approved list of any bona fide nutrition society. Ryneearson³ reviewed the references in her book *Let's Get Well* and found that in many instances the references she gave had been either misquoted or taken out of context and not one of the individ-

uals cited by her could recommend her book. She has recommended toxic doses of Vitamin A, opposed the pasteurization and homogenization of milk, is opposed to white bread, food additives, and chemical fertilizers.

Carlton Fredericks, another prominent writer and radio personality, had virtually no nutritional or health science training. He received a degree from the University of Alabama with a major in English and began writing advertising copy for a vitamin corporation. He was convicted of practicing medicine without a license in 1945. He is similarly a proponent of megadose vitamins, with considerable enthusiasm for hypoglycemia, from which Fredericks estimated 20 million Americans suffered. These individuals supposedly suffer from functional hypoglycemia requiring diagnosis with expensive studies and treatment with special diets and injections of whole adrenocortical extracts. These beliefs have been condemned as unscientific by the American Medical Association, The Endocrine Society, and the American Diabetes Association.³

Mystical Nutrition

A number of groups have developed nutritional precepts to coincide with their philosophical beliefs. In most cases, there is no harm insofar as they consume healthy vegetarian diets. In certain instances, however, this is taken to an extreme and has resulted in malnutrition and death.

The prime example of this is Zen Macrobiotics, originated by George Ohsawa. In this mixture of philosophy and nutritional recommendations, certain foods are categorized as yin and others as yang, and the development of the diet is an attempt to balance these forces. In addition, there is a great emphasis on the inclusion of whole grain cereals and restriction of fluid intake. The individual progresses through 10 levels of improvement of one's

diet. Those who have not achieved the desired state of well being at any one stage of the diet progress to another until they reach the highest level, diet 7, which is an all cereal diet with restricted fluid intake.

The largest area of quackery and food faddism in this country is in weight reduction diets. . . . It is not possible to describe all these diets here, but we will describe them by category.

More serious than the nutritional consequences of such diets is the fact that they are recommended as treatment for specific illness and can result in death due to failure to obtain appropriate medical care. Recommendations are made for treating appendicitis, heart disease, cancer, etc. Those who follow the more rigid diets have presented with serious nutritional deficiencies, including cases of scurvy, anemia, hypoproteinemia, starvation, and loss of kidney function. The danger of this diet has been specifically pointed out by the Council on Foods and Nutrition of the American Medical Association.

Weight Reduction Plans

The largest area of quackery and food faddism in this country is in weight reduction diets. The most significant nutrition problem in the US is obesity, and there are constant societal pressures to reduce weight. Magazines of the type seen at the checkout counter of the supermarket or in beauty parlors maintain their circulation by coming up with a new diet in each issue, which the reader can follow for a few days, see that it doesn't

work, and wait for the next issue to try another. It is not possible to describe all these diets in the article, but we will describe them by category.

Low Carbohydrate Diets

These diets are based on the fact that removal of carbohydrate from the diet leads to ketosis, which causes loss of ketone bodies along with sodium in the urine and an obligate diuresis. Thus, the individual loses 5 to 10 pounds fairly quickly because of this diuresis. Naturally as soon as they return the carbohydrate to their diet and end the ketosis, they immediately retain that fluid and regain the weight. This is usually the source of the claim "Lose a Pound a Day for the First Seven Days" that goes with this kind of diet. Examples of these diets include the so called "Pilots' Diet," the "Air Force Diet," and "The Drinking Man's Diet."

High Protein Diet

This category includes two popular diets: the Stillman and Scarsdale Diets. The Stillman Diet is a high protein, high fat, low carbohydrate diet. The low carbohydrate component induces diuresis, leading to a rapid fluid weight loss. The diet tends to be unpalatable and can cause nausea, fatigue, and exhaustion. It has been demonstrated to increase the serum cholesterol, and may raise the BUN in individuals with renal insufficiency.⁴

The Scarsdale Diet is high in protein but low in fat and carbohydrate. It is a diet restricted to 1000 calories for a 2-week period followed by 2 weeks of a more generous maintenance diet. The individual alternates these every 2 weeks during the course of the diet. There is a diuresis due to the very low carbohydrate content which leads to the claim of "lose a pound a day." In that this diet controls the amount of saturated fat and cholesterol intake it does not have the

untoward effects of the Stillman Diet in relationship to serum cholesterol. Patients do complain however of fatigue and lassitude on this diet.

High Fat Diets

The index diet in this category is "Dr. Atkins' Diet Revolution" from the early 1970s which is a zero carbohydrate, high fat, moderate protein diet. The author claims that individuals can eat all the calories he or she wants on this diet and still lose weight. In reality, the diet rapidly induces ketosis, and ketosis in turn induces anorexia. Because of this, if one measures the calories, the individuals consume progressively less as they stay on the diet. The diet induces fatigue and postural hypotension as well as hyperuricemia and hyperlipidemia with attendant risk of coronary artery disease.⁵

High Carbohydrate Diet

The index diet in this category is the Pritikin Diet, which is a high carbohydrate, high fiber, extremely low fat (less than 10% of calories) diet. No sugars or processed foods are allowed, and less than one quarter pound of meat or fish is consumed daily. The diet is combined with an exercise program. This diet is more designed for reducing risk of coronary artery disease through reduction of serum cholesterol and blood pressure than it is for weight reduction. However, it is such a dramatic departure from the typical American diet that it leads to weight reduction as well. The very high fiber content leads to change in the gut flora with greatly increased production of intestinal gas. While presumably effective in reducing serum cholesterol, the diet is so restrictive as to lead to difficulty in any long term adherence.

Very Low Calorie Diets

In the late 1970s, several liquid protein modified fast diets were

marketed over the counter for rapid weight reduction. These very low calorie diets, with less than 500 kcal per day, consisted of a collagen hydrolysate, a protein low in biologic value. Within a short period of time, over 60 deaths among persons on these diets had been reported to the U.S. Centers for Disease Control. Presumably, the deaths in these individuals were due to acute arrhythmias, and many occurred in patients without any other predisposing conditions. While the specific mechanism has not been discovered, the low quality of the protein hydrolysate and lack of mineral supplementation were thought to contribute to adverse effects.⁶

More recent variants of low calorie diets such as the Cambridge Diet provided very high quality biologic value protein at the same time as very low calories. The purpose of such diets is to spare protein during weight reduction, but studies have demonstrated that in-

dividuals do go into negative nitrogen balance and stay in this for the entire maximal recommended time on the diet.⁷

There is some evidence, however, that diets utilizing high quality protein, mineral supplementation, and careful medical observation may be safe.⁸ Their long term efficacy in maintaining weight loss is questionable. There have been a number of deaths reported in individuals using the Cambridge Diet, but it is virtually impossible to determine whether these deaths were due to the diet.

In summary, there is a host of companies ready to advertise and sell nostrums and recommendations to the gullible public which for the most part are relatively harmless (other than to the pocketbook). However, there are occasions in which these recommendations can produce serious and even fatal complications, and thus the practicing physician should be

aware of this potential in his or her practice. Inquiring about vitamin supplementation and/or other forms of self treatment can be an important point in the differential diagnosis of a host of problems, as noted in the article.

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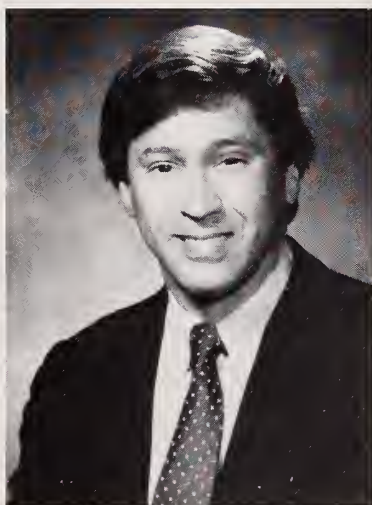


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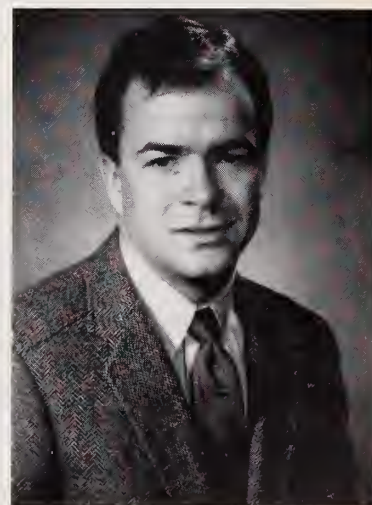
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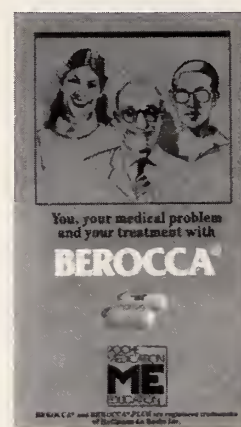
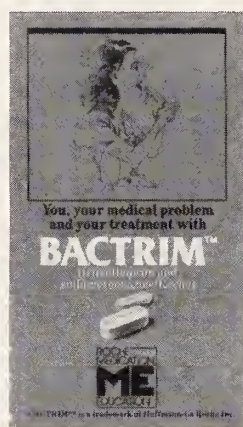
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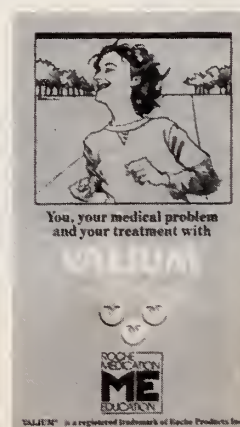
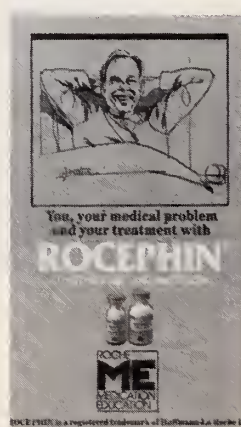
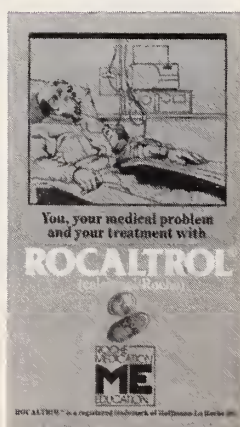
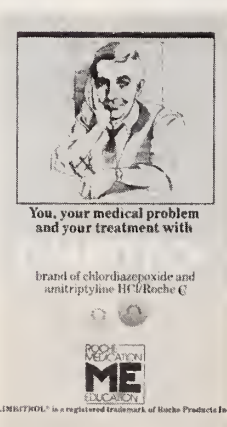
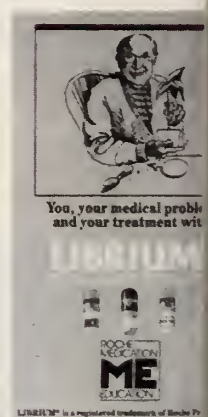
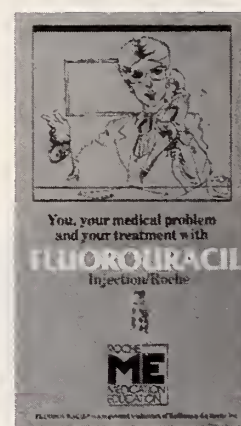
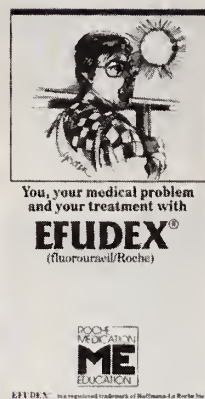
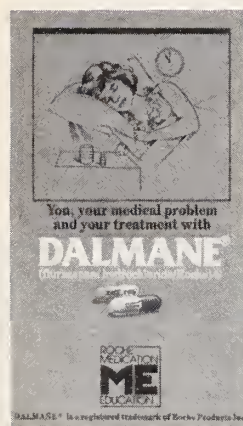


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Hospital and Physician Obligations Under the Medicare "Anti-Dumping" Legislation

Susan Cowan Atkinson

DURING THE 1980S, a primary focus of the Congressional health care agenda was the reduction of federal expenditures on Medicare and, to some extent, Medicaid. While it dramatically curtailed increases in spending, however, Congress also sought to protect access to health care resources by the elderly and indigent. Highly publicized incidents of patient "dumping" (hospitals inappropriately transferring emergency patients on the basis of their inability to pay for services rendered) prompted Congress to enact "anti-dumping" legislation.

Background

Historically, the "community service" provisions of the Hill-Burton Act¹ required hospitals receiving Hill-Burton funding to provide emergency medical services to persons working or residing within the hospital's service area. In an effort to protect access to health care resources by Medicare and Medicaid beneficiaries and to address more specifically the problem of inappropriate transfers, Congress enacted the Emergency Medical Treatment and Active Labor Act (hereinafter "the Act") in 1985.² On June 16, 1988, the Health Care Financing Administration (HCFA) published proposed regulations under the Act; however, before final regulations were issued, Congress significantly amended the Act under provisions of the Omnibus Budget Reconciliation Act of 1989 ("OBRA 1989").³

‘Highly publicized incidents of patient “dumping” (hospitals inappropriately transferring emergency patients on the basis of their inability to pay for services rendered) prompted Congress to enact “anti-dumping” legislation.’

While the OBRA 1989 amendments cleared up some questions created by the original Act, they did not resolve all of the Act's ambiguities, and they created some new difficulties. Furthermore, final regulations expanding upon the Act as amended by OBRA have yet to be published.

General Requirements

Under OBRA 1989, all hospitals participating in Medicare, even those without an emergency department, must:

- 1) Adopt and enforce a policy to insure compliance with the Act;

- 2) Maintain medical and other records related to individuals transferred to or from the hospital for a period of five years from the date of the transfer;
- 3) Maintain a list of on-call physicians who are on call for duty after the initial examination (described below) to provide treatment as may be necessary to stabilize an individual with an emergency medical condition; and
- 4) Post conspicuously in any emergency department a sign specifying the rights of individuals to emergency treatment and information on whether or not the hospital participates in the Medicaid program.⁴

Although the Act mostly specifies obligations of the hospital, the obligations imposed by the Act generally apply to physicians as well.⁵

Initial Screening Examination

The Act requires hospitals to "provide for an appropriate medical screening examination" within the "capability of the hospital's emergency department"⁶ of any individual presenting at the emergency department for examination or treatment. Interestingly, the provisions of the Act apply to non-indigent and indigent individuals alike, although the Act provides that neither the initial screening examination nor any treatment may be delayed by inquiries about the individual's method of payment or insurance status.⁷

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The initial screening examination is performed to determine whether an "emergency medical condition" exists. An "emergency medical condition" is defined as:

- (A) a medical condition manifesting itself by acute symptoms of sufficient severity (including severe pain) such that the absence of immediate medical attention could reasonably be expected to result in —
 - (i) placing the health of the individual (or, with respect to a pregnant woman, the health of the woman or her unborn child) in serious jeopardy,
 - (ii) serious impairment to bodily functions, or
 - (iii) serious dysfunction of any bodily organ or part; or
- (B) With respect to a pregnant woman who is having contractions —
 - (i) that there is inadequate time to effect a safe transfer to another hospital before delivery, or
 - (ii) that the transfer may pose a threat to the health or safety of the woman or the unborn child.⁸

If an "emergency medical condition" exists, the hospital must either 1) provide such further medical examination and treatment, within the staff and facilities available, as may be necessary to "stabilize" the individual's condition, or 2) provide an "appropriate transfer" of the individual.

Stabilization

Stabilization requires providing "such medical treatment of the condition as may be necessary to assure, within reasonable medical probability, that no material deterioration of the condition is likely to result from or occur during the transfer of the individual from a facility," or, with respect to a pregnant woman having contractions,

Physicians should make every effort to establish regular referral patterns for seriously ill and trauma patients before the need to transfer "undesirable" patients, whether indigent, high risk, or arriving in the middle of the night.

to deliver.⁹ The OBRA 1989 amendments added the "or occur during" language, creating potential liability for any material deterioration in a patient's condition occurring during transfer, even if it was not a result of the transfer.

A hospital will be deemed to have met the stabilization requirement if the hospital offers to provide further examination or treatment, but the patient "refuses to consent to the examination and treatment."¹⁰ Similarly, a hospital may also fulfill the "stabilization" requirement if it offers to transfer the individual to another hospital in accordance with the Act, but the patient "refuses to consent to the transfer."¹¹

Stabilization prior to transfer is not required under limited circumstances. First, if a patient or his or her legal representative makes a written request for transfer after being informed of the hospital's treatment obligations and of the risks of transfer, the hospital may transfer the patient so long as the transfer is an "appropriate transfer."¹² Second, the patient may be transferred upon the "certification that, based upon the information available at the time of transfer, the medical benefits reasonably ex-

pected from the provision of appropriate medical treatment at another medical facility outweigh the increased risks to the individual" (or the unborn child) from making the transfer.¹³ This certification must be signed by a physician; however, "if a physician is not physically present in the emergency department at the time an individual is transferred, a qualified medical person" may sign the certification if a physician, "after consultation with the person," has determined that the benefits of transfer outweigh the risks and if the physician subsequently countersigns the certification.¹⁴ Left unclear is whether a physician must ever physically examine the individual prior to transfer if the individual's medical condition clearly warrants treatment not available at the transferring hospital.

The OBRA 1989 amendments also added so-called "whistleblower protections," which provide that a hospital may not "penalize or take adverse action against a physician because the physician refuses to authorize the transfer of an individual with an emergency medical condition that has not been stabilized."

Appropriate Transfer

The Act defines an "appropriate transfer" as a transfer:

- (A) in which the transferring hospital provides the medical treatment within its capacity which minimizes the risks to the individual's health and, in the case of a woman in labor, the health of the unborn child;
- (B) in which the receiving facility —
 - (i) has available space and qualified personnel for the treatment of the patient, and
 - (ii) has agreed to accept transfer of the patient and to provide appropriate medical treatment;

- (C) in which the transferring hospital sends to the receiving facility all medical records . . . , related to the emergency condition for which the individual has presented, available at the time of transfer, including records related to the individual's emergency medical condition, observations of signs or symptoms, preliminary diagnosis, treatment provided, results of any tests and the informed written consent or certification . . . and the name and address of any on-call physician . . . who has refused or failed to appear within a reasonable time to provide necessary stabilizing treatment;
- (D) in which the transfer is effected through qualified personnel and transportation equipment, as required including the use of necessary and medically appropriate life support measures during the transfers; and
- (E) which meets such other requirements as the Secretary [of Health and Human Services] may find necessary in the interest of the health and safety of patients transferred.¹⁵

Paragraph A above requires the transferring hospital to provide medical treatment "within its capacity." Although arguably a physician is not required to actually examine an individual before authorizing a transfer after "consultation" with a "qualified medical person," must a physician then provide hands-on treatment to the individual after the transfer has been authorized? Although an emergency department should have a physician on duty, a physician may not be readily available at a small hospital without an emergency department. Hopefully, the regulations will rectify this ambiguity.

Hospitals having "specialized capabilities or facilities (such as

'The long-awaited final regulations are expected sometime early this spring. . . . To the extent that the regulations do not clarify the Act adequately, the submission of comments may be the last and best hope of physician and hospital groups to clarify their constituents' responsibilities.'

burn units, shock-trauma units, neonatal intensive care units, or (with respect to rural areas) regional referral centers . . . *shall not refuse* to accept an appropriate transfer of an individual who requires such specialized capabilities or facilities if the hospital has the capacity to treat the individual."¹⁶ This section does not specifically define "capacity to treat," and it is arguable that a receiving hospital lacking available bed space does not have the "capacity to treat." However, this ambiguity leaves specialized facilities in a difficult position, since transferring hospitals might argue that every transfer must be accepted.

Enforcement Provisions

The Act provides for numerous enforcement mechanisms directed at both hospitals and physicians. A hospital that "knowingly and willfully, or negligently" violates any provision of the Act faces suspension or termination of its Medicare

provider agreement,¹⁷ thus leaving it ineligible for reimbursement for services provided for Medicare beneficiaries and threatening its participation in Medicaid and the CHAMPUS. Similarly, a physician who violates the Act in a "knowing and willful or negligent" manner is subject to exclusion from participation in the Medicare program and state health care programs.¹⁸ A knowing violation further subjects the hospital to civil monetary penalties of up to \$50,000 for each violation after a hearing before an administrative law judge. Also, "any physician who is responsible for the examination, treatment, or transfer of an individual . . . , including a physician on-call for the care of such an individual," who knowingly violates the Act is subject to a civil monetary penalty of up to \$50,000 for each such violation.

Interestingly, the OBRA 1989 amendments provide immunity from these penalties for physicians performing the initial screening examinations under certain circumstances. If the screening physician determines that the patient requires the services of a listed on-call physician and so notifies the on-call physician, and the on-call physician "fails or refuses to appear within a reasonable period of time," the screening physician may determine that, without the services of the on-call physician, the benefits of transfer outweigh the risks. In such a situation, the screening physician may authorize a transfer and is not subject to penalty; however, both the hospital and the on-call physician are subject to penalty in such a situation.¹⁹

Certain other enforcement provisions are provided which only apply to hospitals. One such provision provides that any "dumped upon" hospital which suffers a financial loss due to a transferring hospital's violation of the Act may

bring a civil action for damages (or appropriate equitable relief) against the transferring hospital "under the law of the State in which the hospital is located."²⁰ Finally, any individual "who suffers personal harm" as a result of a participating hospital's violation of the Act may bring a civil action against the participating hospital to "obtain those damages available for personal injury under the law of the State in which the hospital is located" and appropriate equitable relief.²¹ The Act provides that these civil actions must be brought within 2 years of the date of the alleged violation.²²

Future Implications

The fact that ambiguities in the Act remain unresolved leaves physicians and hospitals in the unenviable position of facing severe penalties for actions not clearly prohibited. HCFA is receiving many complaints under the Act, mostly from disgruntled receiving hospitals, and the agency appears to be proceeding full steam ahead with enforcement actions, despite the remaining ambiguities. Interestingly, in the region which contains Georgia, only a few enforcement actions have actually resulted in monetary penalties, the majority of which involved cases of inappropriately transferred women in labor.

The long-awaited final regulations are expected sometime early

this spring. These final implementing regulations will become effective immediately, but there will also be a "comment period" during which HCFA will accept comments upon the content of the regulations. To the extent that the regulations do not clarify the Act adequately, the submission of comments may be the last and best hope of physician and hospital groups to clarify their constituents' responsibilities.

In the meantime, physicians and hospitals can take some practical steps to help reduce the potential for liability under the Act. Hospitals can work with members of the medical staff to develop or to revise patient transfer policies, patient transfer summaries and informed consent forms to comply with the Act. Furthermore, physicians should make every effort to establish regular referral patterns for seriously ill and trauma patients *before* the need to transfer "undesirable" patients (whether indigent, high risk, or arriving in the middle of the night) arises. Finally, physicians should remember these rules of thumb: 1) Do not transfer an individual for non-medical reasons if the individual has an emergency medical condition; 2) When transferring such an individual for medical reasons, do so in a carefully documented manner which complies with the Act; and 3) In close cases, resolve doubts in favor of not transferring the individual.

Notes

1. 42 U.S.C. §291c(e) (1982).
2. Consolidated Omnibus Budget Reconciliation Act of 1985, Pub. L. No. 99-272, tit. IX, §9121, 100 Stat. 82, 164, §1867 of the Social Security Act (codified as amended at 42 U.S.C. §1395dd (effective August 1, 1986)).
3. Omnibus Budget Reconciliation Act of 1989, Pub. L. No. 101-239, tit. VI, §6211, 103 Stat. 2106, 2245 (effective July 1, 1990).
4. 42 U.S.C. §1395cc(a)(1). O.C.G.A. §31-7-3.1, which became effective on January 1, 1991, also sets forth a similar signage requirement.
5. See, e.g., *Sorrells v. Babcock*, 733 F. Supp. 1189 (N.D. Ill. 1990).
6. Including any ancillary services routinely available to the emergency department. 42 U.S.C. §1395dd(a).
7. 42 U.S.C. §1395dd(h).
8. 42 U.S.C. §1395dd(e)(1). This section did away with the term "active labor" and instead broadened the definition of "emergency medical condition" to include pregnant women having contractions.
9. 42 U.S.C. §1395dd(e)(4)(A).
10. 42 U.S.C. §1395dd(b)(2). The hospital must inform the individual or his legal representative of the risks and benefits of the examination and treatment. If the patient refuses treatment, the hospital must "take all reasonable steps to secure the individual's (or person's) written informed consent to refuse such examination and treatment."
11. 42 U.S.C. §1395dd(b)(3). The hospital must inform the patient or his legal representative of the risks and benefits of the transfer and take reasonable steps to secure the patient's "written informed consent to refuse such transfer."
12. 42 U.S.C. §1395dd(c)(1)(A)(i).
13. 42 U.S.C. §1395dd(c)(1)(A)(ii). Such certification shall also include a "summary of the risks and benefits upon which the certification is based."
14. 42 U.S.C. §1395dd(c)(1)(A)(ii). The term "qualified medical person" has not been defined in regulations as of this writing.
15. 42 U.S.C. §1395dd(c)(2).
16. 42 U.S.C. §1395dd(g) (emphasis supplied).
17. 42 U.S.C. §1395dd(d)(1).
18. 42 U.S.C. §1395dd(d)(2).
19. 42 U.S.C. §1395dd(d)(2)(C). Cf. text accompanying footnote 17.
20. 42 U.S.C. §1395dd(d)(3)(B).
21. 42 U.S.C. §1395dd(d)(3)(A).
22. 42 U.S.C. §1395dd(d)(3)(C).

Managing Implanted Venous Access Devices

Mary Gullatte, R.N., M.N., Michael J. Koretz, M.D.,
P. Ravi Sarma, M.D.

THE IMPLANTED VENOUS access devices (VADs) offer a solution to the problem of poor venous access in a number of patient care situations. The implanted venous ports are ideal for patients requiring chronic continuous or intermittent intravenous therapy. From a patient's perspective, the implanted port requires little or no care once the incisions have healed. In managing the intravenous therapy needs of the medical oncology patients in hospital, ambulatory, and home care settings we have found the implanted VADs invaluable.

The implanted ports include intra-arterial, intraperitoneal, and intravenous devices. For purposes of this article, the venous access ports will be reviewed. Venous access ports are similar in function, design, and application but are made from a variety of materials. When CT scans and Magnetic Resonance imaging are used in diagnostic procedures, it should be noted that the type of material the port is made of (such as stainless steel and titanium) can impact the quality of image by producing undesirable artifacts.

Indications For Use

The implanted venous access devices are recommended for patients requiring chronic intravenous therapy. These VADs can be used for the administration of chemotherapy, blood and blood products, antibiotics, analgesics, and parenteral nutrition. The im-

‘Venous access devices can be used for the administration of chemotherapy, blood and blood products, antibiotics, analgesics, and parenteral nutrition.’

planted VADs are cost effective because they require no dressing change supplies, and only require monthly heparinization when not in use. They are safe, convenient, and the catheter care does not interfere with the patient's lifestyle. For patients requiring multiple or dual venous access concurrently, a double lumen implanted venous port should be considered.

Surgical Considerations

Complications such as malfunction or infection associated with placement of implanted catheters

can delay treatment with chemotherapy as well as cause significant and expensive morbidity. Thus, careful attention should be given towards minimizing intra- and post-operative complications. At Emory University Hospital, approximately 200 implanted catheters are placed each year, accounting for significant expense and operating room utilization. We have favored the Hickman subcutaneous port (DAVOL, Cranston, RI) because of its low cost, ease of assembly, and readily palpable septum edges.

Either cutdown over the external jugular vein or subclavian vein or cannulation allows ready access to the central venous system. Because many oncology patients may have clotting abnormalities or respiratory problems, we prefer the external jugular cutdown since it obviates complications such as pneumo and hemothorax reported with the subclavian vein puncture. Intraoperative fluoroscopy is necessary to confirm satisfactory placement in the superior vena cava. Patency of the port is checked prior to the patient leaving the operating room.

The acceptable infection rate should be less than 5%, while other complications including catheter malfunction and thrombosis should be limited to less than 10%. Satisfactory placement of the catheter tip and possibly low-dose warfarin have been reported to decrease the chances for central vein thrombosis.

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Managing Complications

While users of the implanted VADs report fewer complications and a lower infection rate than externally placed catheters, these devices are not without problems.

Infections

Barring any immediate post-op infection at the surgical site, patients with compromised immune systems related to disease or treatment require close assessment of the port site at each health care visit. In the febrile patient with no clinical evidence of port site infection, blood specimens should be obtained from the VAD and a course of antibiotic therapy initiated. Initial antibiotic treatment should include coverage for *Staphylococcus aureus* (especially Methicillin-resistant *S. aureus* (MRSA) and gram negative organisms, pending culture results. For refractory bacteremia and persistent catheter site or tunnel infection, the VAD will have to be removed.

Catheter Associated Thrombosis

Subclinical thrombosis may be present in 20%-30% of all cases. Clinically apparent thrombosis is seen in approximately 6% of patients. This can involve the subclavian vein or the superior vena cava.

Material such as polyurethane which is used in the more recent devices is probably less thrombogenic than material like silicone, used in the earlier devices.

The onset of thrombosis can be acute, and the patient may present with symptoms of superior vena caval obstruction. Or, the onset can be more subtle, and the first clue may be a failure to obtain a blood return after the device is accessed. However, for many catheters, a blood return may be absent but does not preclude the administration of intravenous solutions. If intraluminal clotting is suspected, as evidenced

by absence of blood return and/or resistance to flushing, the administration of urokinase (5000 to 10,000 u) into the port will restore patency. If vascular thrombosis is suspected, catheter or arm venography is performed to document the thrombosis.

If there is thrombosis, it can be treated with heparin and warfarin anticoagulation. In most instances, it is not necessary to remove the catheter. Bern et al¹ have shown that the use of low dose warfarin prophylaxis will decrease the risk of catheter associated thrombosis to less than 4% without additional complications from warfarin. It is not necessary to monitor the prothrombin time. Warfarin 1 mg/day, is started 3-days prior to the placement of the catheter and continued thereafter.

Port Erosion

Rarely, the disc of the implanted system can erode through the skin. The device should be removed in such instances (Figure 1).

Extravasation of Chemotherapy

Although the risk is small, extravasation can occur if the needle slips out of place or if a leak develops in the catheter. Care should always be taken to ensure that no extravasation occurs.

Conclusion

Implanted catheters have been a major benefit to patients and nursing staff and have markedly lessened the chances for soft tissue injuries from extravasation of chemotherapeutic agents. Newer technologies such as peripheral



Implanted disc eroding through the skin. The device should be removed when this occurs.

ports may lead to decreased costs but are not suitable for every patient.

The implanted VADs are preferred to the external venous catheters in situations other than leukemia and bone marrow transplantation. Careful and individualized evaluation of the venous access needs of the patient should lead to a rational choice of im-

planted venous access catheters and improve the quality of life for the patient receiving treatment.

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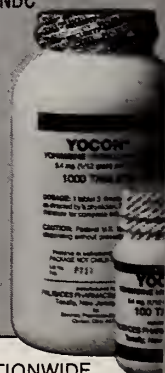
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Reflex Syncope: Current Understanding of the Pathophysiology and Therapies

Barry Silverman, M.D.

SYNCOPE is a common clinical problem which accounts for % of emergency room visits and % of general hospital admissions.¹ The disorder has been described as a brief moment of death and is the result of a loss of consciousness from interruption of cerebral blood flow. The disorder is classified by etiology and may be the result of a primary cardiac disorder, an abnormality of cardiovascular reflexes, or a non-cardiovascular disorder, such as a neurologic, metabolic, or psychiatric abnormality. In patients over 60 years of age, two-thirds of the etiologies are related to primary cardiac disease. When this is the result of ventricular tachycardia, mortality is between 20-30% yearly. Non-cardiac causes are associated with only a 5% mortality, and one of the most common causes of non-cardiac syncope is abnormalities of neurocardiovascular reflexes. Routine evaluation of syncopal patients with Holter monitoring, stress ECGs, echocardiograms, EEG, CT scanning, and even electrophysiologic studies has revealed no specific cause in up to 30% of patients.¹ The addition of baroreceptor testing, including tilt table testing, has significantly increased diagnostic yield. These techniques have established a diagnosis in an additional 30-40% of patients. Since syncope is such a devastating disorder — unpredictable, often associated with severe injuries, affecting the patients' life-

‘The syncope associated with hemorrhage or orthostatic stress might be the result of vigorous contraction of an almost empty ventricular chamber, producing an abrupt paradoxical increase in firing of these C-fiber receptors, promoting bradycardia and vasodilatation.’

style, and limiting their ability to drive — establishing a diagnosis has been of primary importance to both the physician and the patient. This paper discusses our current understanding concerning pathophysiologic mechanisms of reflex syncope and new recommendations concerning therapies.

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This article was prepared at the request of the American Heart Association, Georgia Affiliate. Those wishing to contribute papers to this Section should send them to Dr. Robert Schlant, Journal HEART Editor, Department of Medicine, Emory University School of Medicine, 69 Butler St., SE, Atlanta, GA 30303.

Causes of Syncope

Reflex syncope occurs as a result of decreased venous return. It reflects peripheral pooling occurring usually in the standing and occasionally sitting positions. It can be precipitated by emotion, stress, or pain. Syncope is often associated with such symptoms as epigastric discomfort, nausea, diaphoresis, and blurred vision. Investigators have noticed that it is often precipitated by an increase in heart rate or blood pressure immediately before the syncopal episode. It is felt that the mechanism may be the Bezold-Jarisch reflex.

This reflex, an inhibitory reflex originating in cardiac sensory receptors, appears to account for the hypotension bradycardia associated with a number of syncopal disorders.² The afferent limb of this reflex is non-myelinated (C-fiber) vagal afferents. These receptors are located in the left ventricular myocardium with an increased density in the inferior wall. Some respond to chemical substances such as bradykinins and prostaglandins. Others appear to be stimulated by mechanical stimuli, such as increased contractility. Evidence of the reflex has been demonstrated in acute myocardial ischemia and infarction, particularly involving the inferior posterior wall, where there is a concentration of C-fiber receptors. This may explain the transient bradycardia hypotension, often

noted in inferior posterior infarctions. The nausea and vomiting associated with this infarction may be related to the marked vagal stimulus of this reflex. Coronary angiography can produce a similar reflex when injection of the coronary artery results in inferior wall ischemia.

Vasovagal syncope may be initiated by increased contractility as a result of decreased venous return or increased catecholamine stimulation. So the syncope associated with hemorrhage or orthostatic stress might be the result of vigorous contraction of an almost empty ventricular chamber, producing an abrupt paradoxical increase in firing of these C-fiber receptors, promoting bradycardia and vasodilatation. A similar mechanism might account for the effect of emotion with marked increased contractility as the result of catecholamine stimulation, stimulating fibers and resulting in vagal stimulus. This mechanism may play a role in the effect of Digitalis, which is known to have important neuroexcitatory effects. Digitalis increases contractility with a marked increase in vagal tone. The result may be that it acts as a vasodilator with peripheral vasodilation secondary to the vagal effect, and bradycardia from the vagal afferent fibers.²

Diagnostic Methods

The diagnosis of these patients requires an assessment of Baro receptor function of the autonomic reflexes. In the past, this has been carried out with orthostatic testing, response to valsalva, the cold pressor test, mental arithmetic, and response to amyl nitrite.² Use of the tilt table has provided a fairly specific and sensitive method for establishing a diagnosis of reflex syn-

‘This disorder is classified by etiology and may be the result of primary cardiac disorder, an abnormality of cardiovascular reflexes, or a non-cardiovascular disorder, such as a neurologic, metabolic, or psychiatric abnormality.’

cope. Upright tilt is only rarely associated with syncope in healthy control subjects.³ However, in symptomatic patients, tilt frequently produces hypotension bradycardia. The addition of Isoproterenol has significantly increased diagnostic yield without losing specificity. Isoproterenol, acting as a stimulus for the Bezold-Jarisch reflex, initiates increased contractility during passive upright tilt.⁴

Our own experience in 52 patients with syncopal or presyncopal symptoms demonstrated a 35% positive response using a protocol that included 5 minutes in the supine position and 10 minutes at 80% of tilt. If patients had no response, they returned to the supine position and were given an infusion of Isoproterenol at 1mcg/minute for 5 minutes, and then tilted to 80 degrees for an additional 10 minutes. This was repeated with 1mg/minute increments to a total of 4mcg/minute of limiting symptoms.

Treatment

Traditional treatment for patients

with abnormal reflex syncope have been related to avoiding situations that might produce syncopal symptoms, such as sitting with urination or sitting with coughing; recognizing stressful or panic situations; avoiding immersing in cold water or diving into a pool. Therapy has been related to volume and salt loading and anticholinergic agents including transdermal Scopolamine. While these have been helpful in some patients, as a rule most patients have received little benefit. Vasopressor agents such as Ephedrine and Ergotamine have rarely been helpful, and the use of Cloidine and prostaglandin inhibitors in orthostatic hypotension has rarely been effective. Implantation of a pacemaker in patients with documented bradycardia or asystole is often not corrective, since maintaining heart rate cannot overcome the marked effects of peripheral vasodilatation.⁵ The two therapies that have been most effective in recent studies have been the use of Beta-blocking agents and Disopyramide.^{5,6} Beta-blocking drugs are effective in preventing the increased mechanical contraction associated with reduced left ventricular filling or increased contractility, and prevent a C-fiber receptor stimulation. Disopyramide acts as a vagolytic agent to reduce or prevent the efferent vagal stimulation. A recent study by Tomkowiak et al. demonstrated that 94% of patients treated with a Beta blocker or Disopyramide had no recurrent syncopal spells during long term followup.⁸

The value of new diagnostic techniques and therapies is often appreciated when a dramatic case is seen that demonstrates so vividly the danger of the disorder, the effectiveness of diagnosis which was not previously able to be made, and the relief of having an effective therapy. We recently evaluated a

far-old individual, an athlete and runner, who had experienced over years four different syncopal episodes, including one while driving, several while jogging, and one while running up stairs. The patient had experienced several injuries with these episodes, and previous evaluations had been unable to establish a cause. Tilt table testing produced profound hypotension with 5-second period of asystole. This response was blocked on Beta blockers, and the patient has had no further symptoms. It is now part of our routine evaluation to restudy patients who experience syncopal episodes after therapy is initiated. We then have demonstrated evidence that the reflex hypotension and bradycardia is effectively blocked.

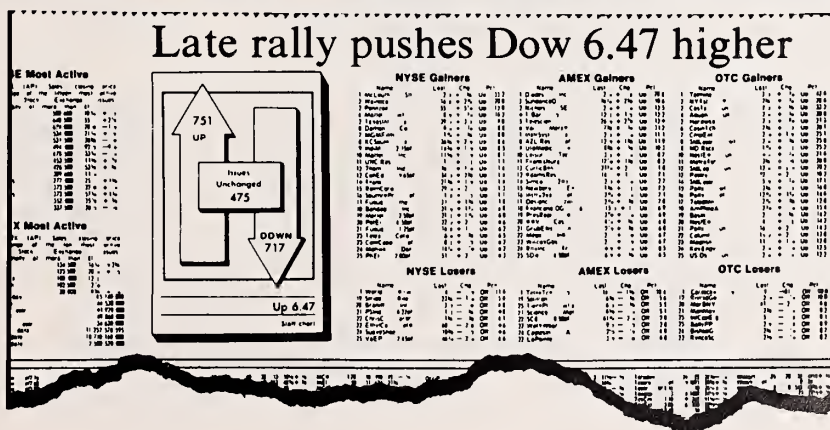
Dr. Abboud, in an editorial, comments: "to those who think of the heart as really a pump, the concept that an episode of syncope may be triggered by activation of sensory nerve endings in the ventricles may be far-fetched. It should not. We accept the notion that an arterial bulge at the carotid bifurcation can cause syncope if compressed or massaged vigorously, and we recognize the syndrome of carotid sinus syncope and carotid sinus hypersensitivity as a common clinical entity."⁷

Ventricular syncope or hypersensitivity of cardiac mechanical receptors may be a common etiology to syncope. There is now a more sensitive means of diagnosis and effective therapy.

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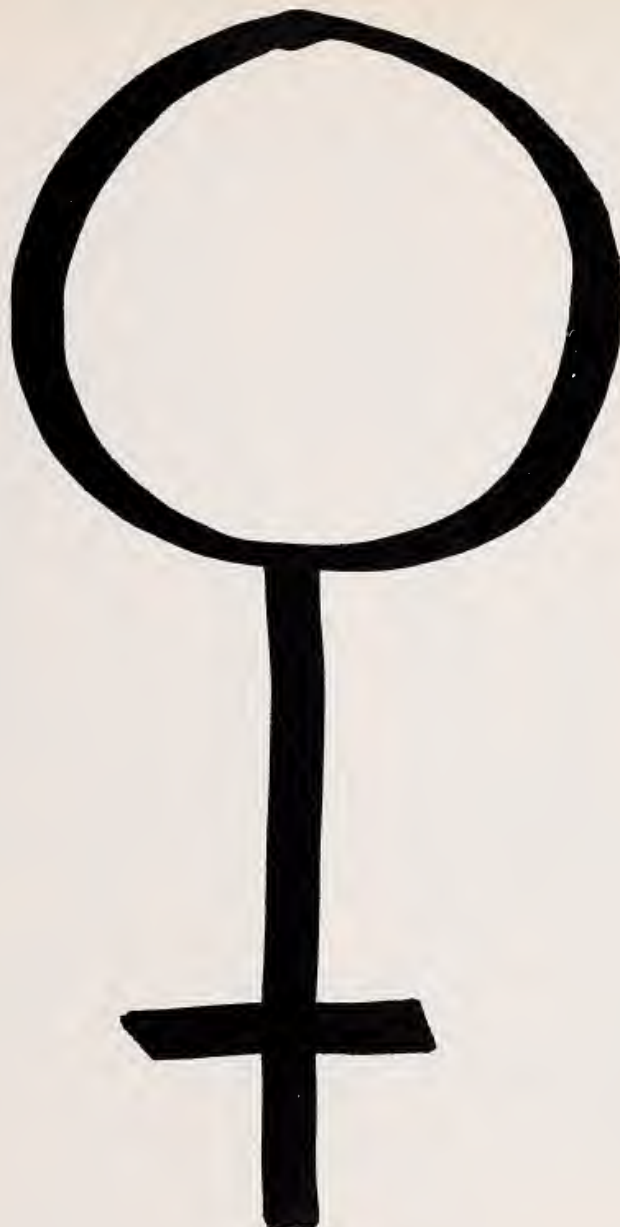
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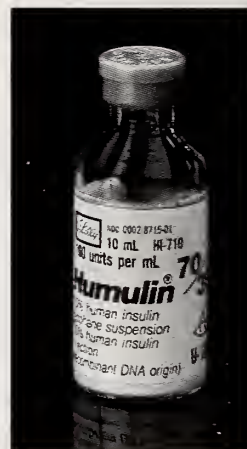
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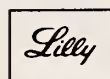
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William C. Collins, M.D.

In Search of the Renaissance Physician

RECENTLY, U.S. Secretary of Health and Human Services, Louis W. Sullivan, M.D., urged American doctors to become Renaissance physicians. He urged us to become well rounded and lifetime learners. He said, however, it is not just enough to be competent in our particular area of specialty expertise, but also to develop communication skills so that our patients will feel that they have truly a doctor-patient relationship and not just an encounter with a technician. I would accuse Dr. Sullivan of having some mind-reading ability, as this has been a long on-going thought process with me. I think it bears a fertile area of development for every physician.

The Renaissance is, of course, that period of development of the world where Western civilization is said to have flourished and marks the transition from the Middle Ages to Modern Times. It reached its height in the Fifteenth to Seventeenth Centuries and brought new importance to individual expression, self-consciousness, and worldly experience in scholarship, literature, the arts, and science. That era is perhaps personified by Leonardo da Vinci and Michelangelo who were able to bring brilliance to several areas and were considered to be experts in several fields of endeavor.

Modern medical training tends to require young college scholars to concentrate so on subjects of science that it leaves little time to develop true appreciation of languages, art, literature, and music. I, indeed, think that a true liberal arts scholar in the long run will have a better appreciation of what the art, as well as the science, of medicine is all about and how it relates to man as a human being and not just an anatomical or physiologic model. Medical school training, of course, is demanding from a scientific standpoint, and a student has very little time to develop the cultural aspects of his being. A medical student must take it upon himself to continue his education in the arts as well as in the sciences. Keen competition for specialty residencies makes a young medical student select his field of expertise earlier and earlier, and often he never becomes a well-rounded physician before he enters into the area of his specialty. Hence, we have seen the passing of the rotating internship, and more and more medical students tend to specialize even before they leave medical school. It is only natural that the newly trained graduates of our era consider themselves to be specialists and not physicians with a specialty.

Certainly the specialties have become more and more confining and even within a specialty, any attempt at understanding the specialty as a whole is viewed as old fashioned. More and more young physicians regard themselves as "knee surgeons, corneal surgeons or inner ear surgeons," rather than orthopaedists, ophthalmologists, or ENT physicians. I am afraid that Dr. Sullivan's search for a true Renaissance physician will, in the very near future, put him in the same futile position of Diogenes looking for an honest man. In other words, a Renaissance physician will be hard to come by.

The ultimate concentration on smaller and smaller areas of expertise of specialization, I am afraid, will lead the new physician to lose sight of his relationship with other physicians in the body whole, forcing him into the trap of the egocentric personality who sees the world revolving around him rather than his being a part of the whole of creation.

Lest I paint a dark and impossible picture of the modern physician with the thought that it is impossible to have a spirit of Renaissance in the modern world of super-specialization, let me say quickly that medicine has exam-

ples of men who have waged this war against becoming one dimensional individuals. There is hope for all of us if we truly desire to be reborn in the spirit of enlightenment. I lift up for an example for every physician to study and suggest he become a part of your lives. I offer Sir William Osler. He represents the very best of science and the very best of the Renaissance man. A small book suitable for carrying in your vest pocket is called the *Counsels and Ideals* of Sir William Osler with *Selected Aphorisms*. This is available from the Classics of Medicine Library in Birmingham, Alabama. I urge that you procure this, take it into your person and read it as you would a bible for that is what it truly is.

Osler, in his time, had the same admonitions to young physicians as I would urge at this point. The tendency toward super-specialization is not new. He states medicine may be said to have begun with specialists. The Ebers papyrus is largely taken up with the consideration of local diseases and, centuries later, we find certain individuals treating special ailments. Aristophanes satirizes a rectum specialist not unlike our comic

journal would poke fun at a super-specialized eye physician or inner ear physician. He cautions greatly in that specialists and super-specialists, as they become narrow in their field and focus, begin to look only at a very small part of the field of medicine and might tend themselves to become small men or women. One fears that the serious loss of perspective with prolonged concentrated effort tends to make our specialists more of a mechanic, and they tend to lose touch with the physiology and pathology upon which their specialty and art is based. Various organs, the disease of which are subdivided for treatment, are not isolated but complex parts of a complex whole and every day's experience brings home the truth of the saying, "when one member suffers, all the members suffer with it."

And so my friends and fellow members of the Medical Association of Georgia, I urge you to heed the words of Louis Sullivan and William Osler — you and you alone can keep yourself from falling into the trap of the narrow focus. How, you may ask, do I do this? *First*, view yourself as primarily a physician. Keep up with what is going on in

the rest of medicine. Read one article every week outside your specialty. Stay active in your local medical society, the Medical Association of Georgia, and the American Medical Association, and keep your membership in these organizations current so that you do feel a part of medicine as a whole and not just subspecialty. Certainly society views us as one profession and the forces that are applied to medicine as a whole will be felt in all the component parts. Secondly, involve yourself in your community. As part of the several learned professions you have the responsibility of providing leadership in the community in many spheres, both political and cultural. Select one of the arts, become knowledgeable in it, and provide financial support and guidance for its flourishing in your community. Thirdly, through your travels, readings, and avocations continue to expand your horizons and never let your view of the world be of a limited scope. In the end, you, and you alone, have the power to keep alive the spirit of the Renaissance.





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President, A-MAG

Reflections . . .

WHEN I THINK over the past year, my reflections about the Auxiliary and the association with MAG go in many different directions. First, I think about the 31 county auxiliaries around this state, involved in a myriad of projects, related to health, medical legislation, philanthropy for medical education and research, and an increasing awareness in the goals and objectives of organized medicine in Georgia.

I am reminded of the one new auxiliary that came out of the heritage of medicine in this state, when the doctor's wife decided that there needed to be a special day to honor the healing profession. As a result that one determined auxilian, there will be a national proclamation signed by President Bush, declaring March 30 as Doctors' Day. I recall how for the first time of the Auxiliary and MAG, they united to actively increase the membership in both groups. The results of this "Mission Possible" were contacts made around the state on the phone Bank to invite physicians to join forces with the medical society to help improve the quality of medicine. Over 300 contacts to non-member physicians were warmly received and membership information was forwarded to more than half of those contacted. It is our hope to continue to use the strength

of our forces jointly to increase membership.

In addition, the special projects on adolescent and O.P.A.L.S. (Older People with Active Lifestyles)-related topics reflect once again how the Auxiliary and the MAG have come together effectively to improve the public awareness of problems specific to each age group and why the medical community is so concerned. Auxilians and physicians around the state have given many hours in their communities to the implementation of these and other timely health issues.

I recall the summer legislative seminar when physicians and auxilians gathered to be trained and charged for the upcoming political races. We were challenged to get involved, get out and vote, and get others to become involved. We learned our lessons well, and as a result, many candidates who are informed and interested in medical issues, are now in a position to work with the MAG to help improve the quality of health care systems. One such elected official is highlighted in this issue. An auxilian, a former state president, upset the apple cart in her district, and I am sure, there are many more apple carts to follow.

All of these important issues pale however, as the stark realization of war brings us out of our reflections. Many of our friends, families, and colleagues have been uprooted from their homes, professions, and patients and transported halfway around the world to a desert. The impact of this conflict is far reaching and serious. Practices have been left unattended, salaries unpaid, patients untended, and there is an enormous strain on those left behind. Now more than ever, the medical community needs to come together in support of all the members of the forces in conflict to do whatever the situation demands. If you know of physicians serving, report it to the MAG office, so that an accurate list can be compiled. If your community is affected by the loss of personnel, pitch in and take up the slack. If you are needed to volunteer even for the smallest most insignificant task, just do it. Chances are that your reward in satisfaction will far outweigh the satisfaction of the one who receives the help. This could be our greatest opportunity for service to our country and our fellow man. We hope, in the near future, to be able to give you some specific suggestions of ways to be of service, but in the meantime, do what you can, where you can.

T H E A U X I L I A R Y

As this year draws to a close, the most significant reflection is that of the partnership between the Auxiliary and MAG. We are working side by side for the same goals. The bridges that connect us to each other and the community are being undergirded by the strong support of MAG for the Auxiliary's projects. This comes in the form of a warm and supportive relationship between the leadership of the two organizations, and the help and patience of the MAG staff. Working under tremendous pressure, the

staff is ever willing to accommodate the Auxiliary needs.

I hope that as you read this issue, you will be inspired to support the MAG, the Auxiliary and the projects that are executed in the name of these two organizations, and will strive to be an active recruiter for increased membership and support in both organizations. We are indebted to Sara Becham (Mrs. Paul) of Roswell, Georgia, who served as Guest Editor of this issue.

It has been a great pleasure for me to represent the Auxiliary to the

Medical Association of Georgia both within our state and at functions throughout the country. Medicine in Georgia is well recognized nationally, so it has been a very easy task for me to receive the accolade on your behalf. I thank you for the opportunity to be a spokesperson for one of the finest medical communities in this nation and I look forward to future endeavors as we "Emerge into the Nineties" together.

Jana K. Hill

NEW MEMBERS

Michael Bailey, M.D.,
Cardiology/Internal Medicine —
Bibb — (Active) 1157 Forsyth
St., Macon 31201

Crystal L. Brown, Family Practice
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Center of Central Georgia, Box
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Dee Brown, Family Practice —
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31901

Deverly A. Byrd, Obstetrics/
Gynecology — DeKalb —
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30030

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Disease/Critical Care Medicine
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Pope Avenue, Augusta 30912-
7400

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MAA — (Active) 310 Yellowroot
Lane, Dunwoody 30350

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(Active) 100 John Maddox Dr.,
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Hadyn T. Williams, Nuclear
Medicine, Diagnostic Radiology
— MAA — (Active) 300
Boulevard, Atlanta 30312

Errata

Charles Betz was omitted; Nancy
Benjamin was listed incorrectly.
Correct listing for both are:

Nancy Benjamin, Family Practice
— Muscogee — (Resident) The
Medical Center, P.O. Box 951,
Columbus 31994

Charles J. Betz, Family Practice —
Floyd-Polk-Chattooga —
(Active) 216 East Ninth St.,
Rome 30161

PERSONALS

Clayton-Fayette CMS

V. Alexander Garcias, M.D.,
urologist in Clayton, has been
elected chief of staff for 1991 at
Clayton General Hospital.

Gordon CMS

Jack Gent, M.D., a surgeon
from Dalton, retired recently and
was honored in a reception at
Murray County Memorial Hospital
for his years of practice and
service.

Medical Association of Atlanta

I. Lehman Lindsey, Jr., M.D.
of Atlanta, was honored recently
by both the Medical/Dental Staff
of Scottish Rite Children's Medical
Center and its Clinic Staff when
he retired from the Neurology
Clinic after 20 years of service.

Dr. Lindsey was one of the first
medical specialists at the old
Scottish Rite Hospital for Cripple
Children in Decatur. He began
volunteering his time in early
1971 by starting the Neurology
Clinic. He played an important
role not only in the growth of the
clinic program, but also in the
growth of the medical aspects of
Scottish Rite Children's Medical
Center.

Dr. Lindsay is not retiring from
practice, only from the Clinics. He
will continue to be associated
with Scottish Rite and his private
practice.

Byron R. Williams, Jr., M.D.
of Atlanta, has been nominated
the Institute for Clinical PET's
(ICP) board of directors. Dr.
Williams is one of the nation's
foremost specialists in the clinical
and research applications of
positron emission tomography
technology. He is the director of
cardiac services at Saint Joseph
Hospital in Atlanta and is certified

y the American Board of Internal Medicine in cardiovascular disease.

Sumter CMS

Deidra R. Woods, M.D., of Americus, has been elected to fellowship in the American College of Physicians. Dr. Woods is Board-Certified and a diplomate of the American Board of Internal Medicine with added qualifications in Geriatric medicine. She has been on the Sumter Regional Hospital Medical staff since 1988 and is currently chairman of SRH department of medicine.

Walker-Catoosa-Dade CMS

Reid Blackwelder, M.D., of Brenton, was recently appointed to the New Physicians Committee of the American Academy of Family Physicians (AAFP). The committee studies the special concerns of young physicians in family medicine.

Whitfield-Murray CMS

Stefan H. Fromm, M.D., F.A.C.S., of Dalton, recently received a 3-year appointment as Cancer Liaison Physician for the Cancer Program at Hamilton Medical Center. The Cancer Liaison Program is an integral part of the Commission on Cancer of the American College of Surgeons.

COUNTY ACTIVITIES

Cobb County Symposium

Nationally known authors Drs. Terroll Sams, Eugenia Price, and Episcopal Bishop C. Fitzsimmons Allison, will headline the 1991 Cobb County Symposium, "The Written Word: Its Genesis, Its Power and Its Meaning," on April 4 and 5. Dr. Sams, whose third novel *When All The World Was*

Young, is due out later this year, will be the opening dinner speaker at the new Marietta Country Club Thursday evening, April 4. Eugenia Price and Bishop Allison will appear on the program, Friday morning, April 5, in the Performance Arts Theater at Kennesaw State College, beginning at 9:10 a.m. For dinner reservations, call 423-6124. No reservation is needed and there is no charge for the Friday a.m. April 5 program.

DEATHS

William W. Coppedge, M.D., of East Point, a retired obstetrician/gynecologist, died last January of heart failure in Atlanta.

Dr. Coppedge was former chief of staff of the South Fulton Medical Center and also was an associate professor of obstetrics and gynecology at the Emory School of Medicine. He retired from medical practice in 1990.

He graduated from Emory University in 1932, received his medical degree from the Medical College of Georgia in 1936, and interned at University Hospital in Augusta. He began his medical practice in East Point in 1939.

Dr. Coppedge was past president of the Atlanta Obstetrical and Gynecological Society, and a Fellow of the American College of Surgeons and the American College of Obstetricians and Gynecologists.

John M. Hodges, Sr., M.D., of Marietta, a retired surgeon and founder of Surgical Associates in Marietta, died last January of complications from heart surgery. He was 75.

Dr. Hodges was an Army surgeon at a base in Albuquerque, N.M., during the Korean War. He graduated from Emory University and earned his medical degree from the Medical College of Georgia. He interned at Charity Hospital in New Orleans and completed his residency at Piedmont Hospital. He was a fellow in the American College of Surgeons.

Calvin B. Stewart, M.D., a retired Atlanta surgeon and oncology specialist, died of pneumonia last February. He was 92. Dr. Stewart was the head of the radium and X-ray department at the Steiner Cancer Clinic at Grady Hospital. He retired from private practice in 1974 after 50 years in the Atlanta medical community. He was a graduate of the University of South Carolina and the Medical College of South Carolina.

QUOTES

I shine in tears, like the sun in April.

CYRIL TOURNEUR: *The Revenger's Tragedy*, v, 1607

Well-apparel'd April on the heel Of limping Winter treads.

SHAKESPEARE: *Romeo and Juliet*, I, 1596

Keep quiet and people will think you a philosopher.

LATIN PROVERB

If I kept a seraglio the ladies would all wear linen gowns, or cotton — I mean stuffs made of vegetable substances. I would have no silk: you cannot tell when it is clean.

SAMUEL JOHNSON: *Boswell's Tour of the Hebrides*, Sept. 17, 1773

**The AMA
Hospital Medical Staff Section
Seventeenth Assembly Meeting
June 20 - 24, 1991
Chicago Marriott Hotel
Chicago, Illinois**

Highlights of the Annual Meeting will include:

- an educational program on the Joint Commission on Accreditation of Healthcare Organizations (JCAHO) and Practice Parameters;
- presentation by the AMA-HMSS Governing Council of reports on medical staff issues including Evaluation of the Hospital Medical Director and Criteria for Evaluating the Performance of the Hospital Medical Director, PRO Required Education of Hospital Medical Staff and Patient Responsibility of On Call Physicians;
- an information exchange on PRO and Managed Care Review;
- AMA-HMSS Governing Council elections for the positions of Delegate, Alternate Delegate and one Member-At-Large.

For Information Contact:

Department of Hospital Medical Staff Services
American Medical Association
515 North State Street
Chicago, Illinois 60610
Phone (312) 464-4754 or 464-4761



HMSS

One in Seven Facilities on Financially Distressed List

Fifteen percent of U.S. hospitals, or one in seven, are experiencing financial and/or operational stress, a new report indicates.

Some 918 hospitals are identified as "distressed" by Health Care Investment Analysts, Inc., (HCIA) of Baltimore. That number jumped by 30% since October, when 704 hospitals were classified as distressed.

HCIA defines a distressed hospital as one that has experienced adverse changes in utilization, payer mix, profitability, capital structure, and/or liquid assets.

HCIA President George Pillari said the data indicate that adverse conditions have cut a swath across all types of facilities. For example, 13% of major teaching hospitals and 16% of non-teaching hospitals in the United States are in distress. Also, 18% of hospitals affiliated with systems and 13% of freestanding facilities are considered distressed.

Since October, 45 hospitals were removed from HCIA's distressed roster, but 278 facilities were added to the list.

"The hospitals that were removed from the list generally showed a propensity to take charge of the situation better than most facilities, and they were able to downsize and improve their financial performance," Pillari said.

Specialty hospitals increasingly show signs of financial stress due to cutbacks in reimbursement from insurers and from the impact of utilization review, he added. Nine percent of the nation's rehabilitation hospitals and 17% of its psychiatric hospitals are on the distressed list.

Employment in Hospitals up 35% in 1980s

Despite a substantial decline in inpatient utilization, employment in the nation's private hospitals during the 1980s grew by 35%, exceeding the 23% growth in general

U.S. employment for the decade, a recent HCFA-funded study found.

In addition, the average hourly earnings of hospital employees rose by 23%, adjusted for inflation, compared with a 6% decline for all workers.

Gregory C. Pope, one of the study's authors and a senior economist for the Center for Health Economics Research in Needham, Pa., said that a major reason for hospital workers' higher average salary hike was that many facilities increased their use of highly skilled workers, such as registered nurses and physical therapists.

But not all hospital workers' salaries showed dramatic increases during the 1980s. The average hourly wages for some of the non-professional staff, such as food-service workers (a 0.1%), experienced generally flat wage changes.

Medicare Claims Processing Slowdown Delays Pay

Because it will not be able to meet its management expenses this year, Medicare has advised private insurers that help to administer the program to slow down their claims processing.

A slowdown in claims processing could mean that hospitals and nursing homes would wait as long as 36 days for Medicare reimbursement — nearly double the average claims turnaround, according to the Chicago-based Blue Cross and Blue Shield Association, the largest Medicare contractor. Physicians and beneficiaries could wait as long as 66 days for payment, Blue Cross/Blue Shield estimated.

Delaying claims payments would cost Medicare an additional \$81 million in interest payments, according to Blue Cross/Blue Shield. It also would double the number of patient inquiries and duplicate claims and physician complaints.

The delays in Medicare payments

to hospitals, physicians, and elderly patients could be avoided, however, if the White House Office of Management and Budget (OMB) would release money from a contingency fund set up for such emergencies. Last year, Congress appropriated \$1.4 billion for Medicare contractors in its FY 1991 budget and then added a contingency fund of \$133.1 million.

AAMC Rips OMB's Proposed Cuts In Medicare GME Payments

The White House Office of Management and Budget's (OMB) proposal to slash Medicare spending in FY 1992 would undermine teaching hospitals' mission to provide health care services to their communities, according to the Washington, D.C.-based Association of American Medical Colleges (AAMC).

In a letter sent earlier this year to OMB Director Richard G. Darman, the AAMC's president registered his group's strong opposition to the OMB's proposal to reduce teaching hospitals' graduate medical education payments by more than \$1.5 billion in FY 1992.

AAMC President Robert G. Petersdorf, M.D., said the proposal would "threaten the health care delivery system by financially harming those institutions that care for the most severely ill, disabled, and economically disadvantaged."

As part of an overall plan to cut \$2.6 billion in Medicare payments to hospitals in FY 1992, the OMB proposed reducing Medicare's indirect medical education (IME) adjustment rate from 7.7% to 1.9%. But during negotiations with the OMB, HHS Secretary Louis W. Sullivan, M.D. reportedly managed to nudge the IME rate closer to 3%.

Americans Undecided About Health Reform

The plethora of current data on

how Americans would like to change the current health care system often is contradictory and shows "no clear consensus" on the issues, a new report concludes.

"The American people desire change, but they are either ambivalent or undecided about what that change should entail," said researchers Cindy Jajich-Toth and Burns W. Roper.

For example, the researchers noted that, although a majority of Americans are satisfied with the insurance they have and the health care they receive, many say the overall system needs repair.

But survey respondents' choices of remedies seem to depend significantly on how the survey questions were couched, the researchers found. "[When] respondents are first asked about their own experiences with health care and cost, they assess what they have and then lean in the direction of supporting the present system," the report stated.

But when questioned only on their support for national health insurance, respondents tend to applaud that proposal.

QUOTES

Health is the vital principle of bliss, And exercise, of health.

JAMES THOMSON: *The Castle of Indolence*, II, 1748

Not less than two hours a day should be devoted to exercise.

THOMAS JEFFERSON: *Letter to T. M. Randolph, Jr.*, 1786

Those who do not find time for exercise will have to find time for illness.

THE EARL OF DERBY: *Address in Liverpool* 1873

A bad conscience is a kind of illness, in the sense that pregnancy is an illness.

F. W. NIETZSCHE: *The Genealogy of Morals*, II, 1887

There are temptations which strong exercise best enables us to resist.

JOHN LUBBOCK (LORD AVEBURY): *The Pleasures of Life*, VI, 1887

The nearer we come to great men the more clearly we see that they are only men. They rarely seem great to their valets.

JEAN DE LA BRUYÈRE, *Caractères*, 1688

The right kind of recreation is almost as essential to success as the right kind of education.

Books, walks, music, plays, athletics, automobiling, traveling, gardening, conversation — each in its proper place can supply ideal recreation. Recreation should mean renewing one's vital forces, getting a fresh outlook and a fresh hold on life, imbibing fresh knowledge and refilling the wellsprings of joy.

B. C. FORBES

Faddists are continually proclaiming the value of exercise: four people out of five are more in need of rest than exercise.

LOGAN CLENDENING: *Modern Methods of Treatment*, I, 1924

Whenever I feel like exercise I lie down until the feeling passes.

Ascribed to ROBERT M. HUTCHINS b.
J.P. MCEVOY: *Young Man Looking Blackwards*, 1938 (American Mercury, Dec.

There is always a certain meanness in the argument of conservatism, joined with a certain superiority in its fact.

R. W. EMERSON: *The Conservative* 184

Nicknames and whippings, when they are once laid on, no one has discovered how to take off.

W. S. LANDOR: *Imaginary Conversations*, I, 182

Some grief shows much of love, But much of grief shows still some want of wit.

SHAKESPEARE: *Romeo and Juliet*, I

Everyone can master a grief but he that has it.

SHAKESPEARE: *Much Ado About Nothing*, III, c. 159

Eloquence, smooth and cutting, is like a razor whetted with oil.

JONATHAN SWIFT: *Thoughts on Various Subjects*, 170

I do order and declare that all persons held as slaves within said designated states and parts of states are and henceforward shall be free; and that the executive government of the United States, including the military and naval authorities thereof, will recognize and maintain the freedom of said persons.

ABRAHAM LINCOLN: *Emancipation Proclamation*, Jan. 1, 186

Of Our Heritage — Our Legacy

Charles R. Underwood, M.D.

JAQUES: *All the world's a stage,
And all the men and women
merely players;
They have their exits and their
entrances;
And one man in his time plays
many parts,
His acts being seven ages. At first
he infant,
Mewling and puking in the
nurse's arms;
Then the whining school-boy,
with his satchel
And shining morning face,
Creeping like snail
Unwillingly to school. And then
he lover,
Sighing like furnace, with a
doeful ballad
Made to his mistress' eyebrow.
Then a soldier,
Full of strange oaths, and
bearded like the pard,
Jealous in honour, sudden and
quick in quarrel,
Seeking the bubble reputation
Even in the cannon's mouth. And
then the justice,
In fair round belly with good
capon lin'd,
With eyes severe and beard of
formal cut,
Full of wise saws and modern
instances;
And so he plays his part. The
sixth age shifts
Into the lean and slipper'd
pantaloon,
With spectacles on nose and
pouch on side,*

*His youthful hose, well sav'd, a
world too wide
For his shrunk shank; and his big
manly voice,
Turning again toward childish
treble, pipes
And whistles in his sound. Last
scene of all,
That ends this strange eventful
history,
Is second childishness and mere
oblivion;
Sans teeth, sans eyes, sans taste,
sans every thing."*

As You Like It, Act II, Scene 7
WILLIAM SHAKESPEARE

"A churchyard. Here, then, the
wretched man whose
name he had now to learn, lay un-
derneath the ground. It was a wor-
thy place. Walled in by houses;
overrun by grass and weeds, the
growth of vegetation's death, not
life; choked up with too much bury-
ing; fat with repleted appetite. A
worthy place!

The Spirit stood among the
graves, and pointed down to One.
He advanced towards it trembling.
The Phantom was exactly as it had
been, but he dreaded that he saw
new meaning in its solemn shape.

'Before I draw nearer to that stone
to which you point,' said Scrooge,
'answer me one question. Are these
the shadows of things that may be,
only?'

Still the Ghost pointed down-
ward to the grave by which it stood.

'Men's courses will foreshadow
certain ends, to which, if perse-
vered in, they must lead,' said
Scrooge. 'But if the courses be de-
parted from, the ends will change.
Say it is thus with what you show
me!'

The Spirit was immovable as
ever.

Scrooge crept towards it, trem-
bling as he went; and following the
finger, read upon the stone of the
neglected grave his own name,
Ebenezer Scrooge.

'Am I that man who lay upon the
bed?' he cried, upon his knees.

The finger pointed from the grave
to him, and back again.

'No, Spirit! Oh, no, no!'

The finger still was there.

'Spirit!' he cried, tight clutching at
its robe, 'hear me! I am not the man
I was. I will not be the man I must
have been but for this intercourse.
Why show me this if I am past all
hope!'

For the first time the hand ap-
peared to shake.

'Good Spirit,' he pursued, as
down upon the ground he fell be-
fore it: 'Your nature intercedes for
me, and pities me. Assure me that
I yet may change these shadows
you have shown me, by an altered
life!'

The kind hand trembled.

'I will honour Christmas in my
heart, and try to keep it all the year.
I will live in the Past, the Present,

and the Future. The Spirits of all Three shall strive within me. I will not shut out the lessons that they teach. Oh, tell me that I may sponge away the writing on this stone!

In his agony, he caught the spectral hand. It sought to free itself, but he was strong in his entreaty, and detained it. The Spirit, stronger yet, repulsed him.

Holding up his hands in a last prayer to have his fate reversed, he saw an alteration in the Phantom's hood and dress. It shrunk, collapsed, and dwindled down into a bedpost."

A Christmas Carol
CHARLES DICKENS

PERHAPS IT IS A SIGN or a symptom as we of the medical and surgical arts are apt to say, of one's aging, or hopefully maturing, when our thoughts for reason unknown at times turn to what we shall leave behind when we are gone. That is the way which we in the South speak of the dead you see. "He's gone," they say. Not dead or deceased or passed away. It is simply gone, as gone over the river perhaps, or gone home, or even we will say gone to heaven. It is at such times that our thoughts turn to the heritage, the legacy, of our lives. Not perhaps, however, be it an activity of mere age should one consider the rising tide of teenage suicide. Surely before that fatal and final decision is made there must be thoughts in the confused mind of what will be left for family and friends to remember. What left to cope with.

What indeed do we as physicians wish for our heritage, both individually and collectively? Shall it be a good name? A family financially safe and secure? A family remembering us with pleasant and loving thoughts even if not financially secure? A host of devoted patients and colleagues who speak of us with reverence and

respect if not with love and affection? A portfolio stable, diversified and secure against the fickle fluctuations of the market? A Mercedes with a 10-year guarantee? A wife who remembers with affection?

Certainly they are all important and meaningful aspirations. Some with greater priority for some of us than others, for we are surely a diverse group. I have among my friends two who exhibit the most disparate personality characteristics. One is a gregarious raconteur placing value on friends and on life's joys and pleasures. The other known by all to worship money and the material accouterments of life. Among his many possessions this latter one places great importance on his Mercedes limousine and a racey Jaguar coupe for two. It was during a friendly conversation one day that the one, the jovial raconteur, said to the merchant of wealth, "Ralph, you know, some day you are going to die, just like the rest of us, and when you do we are going to bury you in the Mercedes and let all your friends and mourners ride in the Jaguar." I thought it a rather piercing and intuitive insight into one person's legacy.

But I digress. Most recently I thought of such things at a funeral. A proper place, I thought, for such reflections. One's mood at such times seems to dictate it. There were for us in fact three funerals this past month, all in the span of 1 week. One was that of a physician who had cared for the surgical illnesses in our community for many years. The eulogist spoke of devotion to patient and family and friends. He set an air, a standard, in our medical community of scrupulous attention to patient care and placed importance on personal decor and conduct. His grieving wife said to me at her home the evening prior to the funeral, "We never left

home to go anywhere without him saying, 'Give me just a minute to stop by the hospital to check on patient one more time'." And so was that on the way from the funeral home to the church she asked that the hearse drive slowly by the hospital where colleagues, nurses and friends stood to wave goodbye on this one last trip by the hospital. He left a legacy to be envied by all.

And then the same week came the funeral of the husband of our long-time Emergency Room Nurse Supervisor. We found her at the funeral home with the deceased husband in the casket in full military dress, ribbons and all, and the casket draped with the American flag. "Proper," I thought, at this work some time in our country's history. He left a legacy of duty and honor and love of country.

And then Will Tanner left us and his aging and fragile wife. He was a farmer. That is all he ever did. Farmed to raise vegetables and particularly flowers by the acre. The all knew the two of them. Those who loved beauty and flowers and placed no value on material things.

There they all were, all the things or most of them, that in my reflections seemed to be the choices of our heritage. Love and respect of family, friend, and patient a life. Loyalty to ideals and country. Weeping by both poor and wealthy for a simple farmer. My choices, so it seemed I had them, lay boundless before me. I came to my senses. No choices have we, I thought. We shall be thought of, remembered or not, as we were. "Oh, cruel world," I cried out.

Happiness, sheer joy, broke upon me. I sensed it. I realized, there is yet time! Sure we physicians are poorly perceived by some. Some polls would indicate that we are self-centered and money hungry. We are said to lobby

for our own welfare and not that of the populace. But yet we are loved and respected generally by our patients. Who amongst us has not heard it said or been told, "I'd let him cut my head off?" To such an intemperate remark on one occasion from a patient of mine I cautioned, "You really should not carry it that far."

This is no obituary. No maudlin tribute to the dead past nor to the hopeless future. There is yet hope. We can, though with effort, choose our heritage. No more need we be the lesser of used car and insurance salesmen in anybody's poll. There is yet time. We can become what we will.

We can also remain as we are. It is our choice. Perceived, deserved or not, as focused on oneself — on self preservation — on wealth. Focused on preservation of the status quo. And yet there is that choice. An elective position so precious that few of us seem to recognize it. There is that opportunity to leave as our heritage an image of the medical

profession as caring, as willing to participate in charity clinics, see and care for Medicaid patients, restrain and police ourselves, cooperate with those other parties of the health care team. Perhaps from such an environment shall arise an attitude obliterating our need to protect ourselves at exorbitant expense from legalistic accusations. Surely from such genuine conduct will evolve a reputation we once all enjoyed of placing the welfare of those who trust their health and their lives to us ahead of our own well being.

Somewhere in the distant future, oh, so very far distant I pray, lies that time when I, when we all, shall be remembered. I hope for us all that it shall be a time when this particular generation of physicians, for that indeed is all that we can or dare control, leaves behind a heritage, a legacy, to those who follow us that we are comfortable with and proud of. I have always thought that this must have been the feeling of

Robert Louis Stevenson when he wrote the inscription for his own tombstone,

*Under the wide and starry sky
Dig the grave and let me lie:
Glad did I live and gladly die,
And I laid me down with a will.
This be the verse you grave for me:
Here he lies where he long'd to be;
Home is the sailor, home from the sea,
And the hunter home from the hill.*

"Requiem,"

ROBERT LOUIS STEVENSON

And so I thought as this week of funerals came to an end, as my three friends lay quietly in the ground, that here was stated at least some of the characteristics of the heritage we physicians should aspire to. That we lived our lives and did our work in such a manner that when we are gone we will be remembered by patients, friends, and colleagues as having worked and lived gladly and come to our peace gladly.

Park In April

*The city sparrow sings his song
Of discontent through winter weather
Winging through gray days, too long;
For leafless limbs, wondering whether
There will be another spring
Or only barren window ledges,
Chilled brown earth, winds that sing
Of northern slopes with frosted sedges;
Frozen fountain, marble encased,
And lonely benches along the path,
With spider web scribbling that winds erased
In sudden decisive show of wrath.*

*But now ambitious jonquils show
Their briefest petals to the trees;
Then hyacinths like melting snow
Or newly-fallen Pleiades.
The geyser rests no longer, leaping
Up with laughter to awake
Magnolias flushed with too much sleeping
Close to fires late March days make.
Now even these winged skeptics arouse
Themselves from winter lethargies
When dogwood's pseudo-snow-tipped boughs
Fulfill gaunt autumn's prophecies.*

Awakening

*Awakening, I walked into the cool April
Before the timid sun. Dew-washed fingers
Of the dark brushed with half-forgotten
Tenderness across my cheeks. (There lingers
Yet their touch.) I pushed my way along
The climbing mountain path, then silently stood
Facing the wakening east in wonderment
As the negligee of spring clung to the wood.*

JOHN RANSON LEWIS, M.D.

Dr. Lewis, a plastic surgeon in Atlanta, is Georgia's Poet Laureate.

APRIL 1991

21-26 — *Atlanta: American Association of Immunologists.* Contact Exec. Dir., J.F. Saunders, Ph.D., 9650 Rockville Pike, Bethesda, MD 20814. PH: 301/530-7178.

21-26 — *Atlanta: American Association of Pathologists.* Contact AAP, 9650 Rockville Pike, Bethesda, MD 20814. PH: 301/530-7130.

23-24 — *Atlanta: Medical Practice Management Conference.* Category 1 credit. Contact Office of CME, Emory Univ. Sch. of Med., 1440 Clifton Rd., Atlanta 30322. PH: 404/727-5695.

24-28 — *Sea Island: Seventh Annual Masters in Gynecology.* Category 1 credit. Contact Office of CME, Emory Univ. Sch. of Med., 1440 Clifton Rd., Atlanta 30322. PH: 404/727-5695.

26-28 — *Augusta: Frontiers in Nutrition.* Category 1 credit. Contact Div. of Cont. Ed., MCG, Augusta 30912-1400. PH: 404/721-3967.

27-28 — *Augusta: Pathology Symposium.* Category 1 credit. Contact Div. of Cont. Ed., MCG, Augusta 30912-1400. PH: 404/721-3967.

29-3 May — *Atlanta: Modern Methods of Diagnosing and Treating Diabetes Mellitus and Its Complications.* Category 1 credit. Contact Office of CME, Emory Univ. Sch. of Med., 1440 Clifton Rd., Atlanta 30322. PH: 404/727-5695.

29-3 May — *Atlanta: MR-91-03 Magnetic Resonance.* Category 1 credit. Contact Office of CME, Emory Univ. Sch. of Med., 1440 Clifton Rd., Atlanta 30322. PH: 404/727-5695.

29-4 May — *Augusta: 26th Annual Family Practice*

Symposium. Category 1 credit. Contact Div. of Cont. Ed., MCG, Augusta 30912-1400. PH: 404/721-3967.

MAY 1991

3-4 — *Atlanta: Maintaining Function Among the Elderly: Clinical and Psychological Issues.* Category 1 credit. Contact Office of CME, Emory Univ. Sch. of Med., 1440 Clifton Rd., Atlanta 30322. PH: 404/727-5695.

9-12 — *Atlanta: Second Conference on International Travel Medicine.* Category 1 credit. Contact Office of CME, Emory Univ. Sch. of Med., 1440 Clifton Rd., Atlanta 30322. PH: 404/727-5695.

13-17 — *Atlanta: Modern Methods of Diagnosing and Treating Diabetes Mellitus and Its Complications.* Category 1 credit. Contact Office of CME, Emory Univ. Sch. of Med., 1440 Clifton Rd., Atlanta 30322. PH: 404/727-5695.

15-17 — *Atlanta: MRN-91-02 Magnetic Resonance.* Category 1 credit. Contact Office of CME, Emory Univ. Sch. of Med., 1440 Clifton Rd., Atlanta 30322. PH: 404/727-5695.

17-18 — *Atlanta: The Cardiac Patient.* Category 1 credit. Contact Office of CME, Emory Univ. Sch. of Med., 1440 Clifton Rd., Atlanta 30322. PH: 404/727-5695.

17-19 — *Lake Lanier Islands: GAFF Quarterly CME/Residents' Research Weekend.* Contact Judy Rayburn, Director of Education, GAFF, 3760 LaVista Rd, Ste. 100, Tucker 30084. PH: 404/321-7445 or 800/392-5841.

20-24 — *Atlanta: MR-91-04 Magnetic Resonance.* Category 1 credit. Contact Office of CME, Emory Univ. Sch. of Med., 1440 Clifton Rd., Atlanta 30322. PH: 404/727-5695.

29-2 June — *Savannah: Nongynecologic Pathology.* Contact Customer Services Dept., American Society of Clinical Pathologists, 2100 W. Harrison St., Chicago, IL 60612. PH: 800/621-4142.

JUNE 1991

3-7 — *Atlanta: Modern Methods of Diagnosing and Treating Diabetes Mellitus and Its Complications.* Category 1 credit. Contact Office of CME, Emory Univ. Sch. of Med., 1440 Clifton Rd., Atlanta 30322. PH: 404/727-5695.

9-13 — *Sea Island: 15th Symposium on Lung Disease.* Contact M. Williamson, Southern Medical Association, 35 Lakeshore Dr., PO Box 190088, Birmingham, AL 35219. PH: 800/423-4992.

13-15 — *Atlanta: Contact Lens Update.* Category 1 credit. Contact Office of CME, Emory Univ. Sch. of Med., 1440 Clifton Rd., Atlanta 30322. PH: 404/727-5695.

17-22 — *Kiawah Island, SC: 22nd Annual Internal Medicine Symposium.* Category 1 credit. Contact Div. of Cont. Ed., MCG, Augusta 30912-1400. PH: 404/721-3967.

20-23 — *Sea Island: GA Chapter, American Academy of Pediatrics.* Contact William C. Mankin, 4059 Land O'Lakes Dr., Atlanta 30342. PH: 404/237-3922.

21-23 — *Hilton Head Island, SC: Daily Anesthetic Challenges.* Category 1 credit. Contact Div. of Cont. Ed., MCG, Augusta 30912-1400. PH: 404/721-3967.

27-30 — *Kiawah Island, SC: Hematology and Oncology.* Category 1 credit. Contact Div. of Cont. Ed., MCG, Augusta 30912-1400. PH: 404/721-3967.

Dear Editor,

I have received your letter dated 26 December 1990 regarding the evaluation of activities at the *Journal* on the evening of Saturday, February 2, 1991.

As you probably know, I am retiring on the 31st of March, 1991. Since I am a great believer in orderly transition, one of the final things I have to do relating to that orderly transition is to submit my resignation from the Editorial Board of the *Journal of the MAG*.

Although I have not been very active in strategy sessions, I believe I have responded to all requests of the *Journal* from the standpoint of evaluating manuscripts, etc. as a member of the Editorial Board.

It has been an honor for me to be on the Editorial Board, and I appreciate your request that I do so. I, for one, am certain that the *Journal* is in good hands and I would like to personally compliment you for the way in which you have edited the *Journal of the MAG*. Your editorial management has been superb, and I personally have looked forward to reading your editorials particularly each month and will continue to do so.

Once again, many thanks for your support and for permitting me to serve the *Journal of the Medical Association of Georgia*. Might I wish you and yours and the *Journal* all the best in the future.

Warm personal regards.

Sincerely,

Arlie R. Mansberger, Jr., M.D.
Professor and Chairman
School of Medicine
Medical College of Georgia
Augusta

QUOTES

Posterity is a most limited assembly. Those gentlemen who reach posterity are not much more numerous than the planets.

BENJAMIN DISRAELI: *Speech in the House of Commons, Jan. 22, 1886*

The true pleasures of a gentleman are those of the table, but within the bound of moderation; good company, that is to say, people of merit; moderate play, which amuses, without any interested views; and sprightly gallant conversations with women of fashion and sense.

LORD CHESTERFIELD: *Letter to his son, Oct. 9, 1746*

Oh! She was good as she was fair.

None — none on earth above her!

As pure in thought as angels are; To know her was to love her.

SAMUEL ROGERS: *Jacqueline, I, 1814*

In war, hunting and love, men for one pleasure a thousand griefs prove.

GEORGE HERBERT: *Outlandish Proverbs, 1640*

War is death's feast.

IBID.

Life is warfare, and the sojourn of a stranger in a strange land.

MARCUS AURELIUS: *Meditations, II, c. 170*

The longest life and the shortest amount to the same. For the present is of equal duration for all, and what we lose is not ours.

IBID.

How Are Octogenarians Supposed to Behave?

Alfred A. Messer, M.D.

JOHNNY CARSON had just completed a delightful interview with an octogenarian. The woman told about her early life on the Great Plains, how active she was currently in her church and social circle, and about her plans for travel on her 90th birthday, 2 years hence. But then, Johnny Carson ruined everything. After the commercial break, Carson and his sidekick were musing about the interview. "My, she's clear as a bell," he said seriously. Well, why shouldn't she be clear as a bell? Implicit in his remark is that she should be bumbling, confused, and doddering. Isn't that how octogenarians are supposed to behave?

Carson betrays a rampant belief in our society: as people get older, they don't count. A man or woman may have been at the top of a business or commercial enterprise, or a successful athlete or actress, but once retired, they're finished. Out.

Perhaps much of this view has to do with technology, specifically, printing presses. The wisdom that came with experience is no longer necessary. Consider medicine: when a complicated medical problem arose, you looked for the senior doctor who might have treated many such patients during his long career. Today, the youngest intern can tally up the symptoms presented by a patient, do a computer search in the medical library, and have before him every known

‘Instead of talking about their abilities or broadcasting their knowledge, many older people are content to talk about their incapacities and the constrictions which face them.’

experience with this clinical situation. When successful farming depended on knowledge of what had been done previously, the oldest farmer would tell of his time with planting and harvesting. In manufacturing, before modernization and automation, the worker who had been on the job longest was the one whose advice was sought. Today, libraries provide the information that age and experience once did. (In many primitive tribes, specific persons are designated as oral historians because of the lack of written records.)

There's irony here: many older people have bought the belief that they are supposed to wander

aimlessly in a wilderness of confusion and uncertainty, that they're over the hill. Instead of talking about their abilities or broadcasting their knowledge, they are content to talk about their incapacities and the constrictions which face them.

By contrast: consider the patient who came to see me years ago. Doctors don't talk publicly about patients they've treated, but in this case, the woman has passed on. She was 94 when she appeared in my office.

Somewhat bent over with arthritis, and her vision impaired from cataract surgery, she stated: "In my family, genetically, we all live to be a hundred. I want to settle some problems bothering me so that the next 6 years will be more tranquil."

And so we began treatment. Instead of dealing with issues that had been troubling her for a few years, she described concerns which had existed for 80 or 85 years. The patient benefitted from standard psychotherapy and lived to be 99 — more content, I hope.

How do we change an attitude that has become so ingrained? How do we counteract the image of Dwight D. Eisenhower, who told people that as soon as he retired, he would find a rocking chair, sit, and rock and rock and rock?

One approach would be for each person who reaches 30 to ask him/herself two questions: (1) How do

Dr. Messer practices psychiatry and psychoanalysis in Atlanta. His address is 3332 Valley Rd., Atlanta, GA 30305.

I want people to regard me in 50 years? (2) What would I like to be doing in 50 years?

One answer I heard was on a trip to Peru, to meet one of my former students who practices medicine there. He took me to a village in the Andes known for longevity. We asked three different people to identify the oldest inhabitant. Each pointed in the direction of a hill where a man was bent over, hoeing. Each stated that he was 120 years of age. (There might have been some exaggeration, but birth cer-

‘Implicit in his remark is that this 90-year-old woman should be bumbling, confused, and doddering. Isn’t that how octogenarians are supposed to behave?’

tificates were not available, and why quibble about a few years?)

We strode to the hill, watching the man briefly as he hoed small patches of ground and planted corn. “Could we talk to you for a minute?” my student asked in native Quechuan. The man glanced at us from under his sombrero, then waved us off with great irritation: “Get away from me, I have no time to talk. Can’t you see I’m working?” We looked at each other and walked on. No further questions were necessary.

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Augusta's Resourceful Resource Center on Aging

Rosie Messer, Daniel Pearson

A REVOLUTION is underway in Augusta. For the better part of a decade, the Augusta Resource Center on Aging has been blazing a trail of progress in the realm of services for older adults.

In early 1985, strategic planners at Augusta's 700-bed University Hospital identified the need to expand services to older adults. Soon after, they joined forces with St. Joseph Hospital to provide these services through the Augusta Resource Center on Aging, established as a non-profit corporation in early 1987.

Nothing earth-shaking here, you say? Well, consider the direction this new venture took. Sponsorship by two hospitals might lead you to expect a renewed commitment to geriatric medicine, or the announcement of a new hospital wing devoted to research in gerontology.

Without ignoring such needs, this venture took off in a completely different direction. The cornerstone of efforts by the Augusta Resource Center on Aging (ARCOA) from its inception has been the concept of

The tone was set by the initial funding of \$1.5 million from each of the sponsoring hospitals in Augusta to establish a non-profit corporation in early 1987.

wellness in all its diverse physical, emotional, and spiritual aspects.

With a foresight blind to aging stereotypes, planners recognized that to offer services primarily to those older adults who are ill or hospitalized is to ignore the major-

ity of this group. So they set out to identify and provide for the needs of older adults enjoying healthier and longer lives.

The need for this direction is highlighted by the fact that every day 5,500 Americans turn 65. By 2030, one person in four will be over 65, every third person over age 55. It is predicted that centenarians in America will number one million by then. In the Augusta area, the percentage of older adults is significantly higher than the national average and is increasing at a faster rate than most cities in Georgia.

Resource Center on Aging

What has been accomplished in Augusta to serve this growing population since the first planning session has been remarkable. The Augusta Resource Center on Aging has not been a rocking-chair panel of bureaucrats or a tea time collection of rose growers and poetry readers, but a dynamic mixture of groups and individuals taking dramatic ac-

Ms. Messer is President of Augusta Resource Center on Aging, and President of Brandon Wilde; Mr. Pearson is a freelance writer in Augusta.

Send reprint requests to Ms. Messer at Brandon Wilde, 4275 Owens Rd., Evans, GA 30809.

tion on many fronts.

The tone was set by the initial funding of \$1.5 million from each of the sponsoring hospitals; this group was going to accomplish things in a highly visible fashion.

A few examples include:

- The "Age Old Question," a well read weekly question and answer column in the *Augusta Chronicle* featuring information on issues and local resources pertinent to older adults and their families;
- The Aging Connection, a free information and referral service for older adults, family members, and caregivers throughout the greater Augusta area which makes callers aware of available service providers and makes the necessary contacts to get the two groups together;
- ENLIVEN!, a series of annual workshops which have been held in more than a dozen area churches and synagogues to assist those responsible for older adult ministries in each congregation;
- A monthly Senior Report broadcast on a midday news and public affairs program;
- A Resource Directory. This a free, large print directory providing complete listings of community agencies who provide services for older adults throughout the Augusta area.

As valuable as all the above services are, they still don't even begin to portray the scope of activities undertaken. However, two other major endeavors of the Resource Center round out the picture.

ARCOA Membership

One is ARCOA Membership, a free program for those 50 and better. The program now boasts more than 7,500 members who have joined to take advantage of free or discounted benefits ranging from health screenings to insurance and

The cornerstone of efforts by the Augusta Resource Center on Aging from its inception has been the concept of wellness in all its diverse physical, emotional, and spiritual aspects.

Medicare counseling, the latter including free claims assistance to help sort through the maze of Medicare and supplemental insurance paperwork.

The two sponsoring hospitals once again enter the picture with benefits for members like 10% cafeteria and gift shop discounts at the hospitals, free parking, special tours for members, and even such nice touches as a personal visit by a Membership staffer during stays at either hospital.

In a unique and beneficial twist, the program is hosted and partly underwritten by Augusta Mall. In March, 1987, the Augusta Resource Center on Aging teamed with the Auxiliary to the Richmond County Medical Society and Health Central, University Hospital's Wellness Center, to initiate the Mall Walking Program at Augusta Mall. Auxiliary volunteers still offer blood pressure screening for Mall Walkers on the second and fourth Mondays each month. The mall provides the office space for membership staff and uses their huge electronic marquee on busy Wrightsboro Road to let the world at large know all the benefits of joining. They throw out the red carpet for members who attend the monthly educational programs or special seminars. They also open early for the brisk Mall Walkers, and one of the restaurants opens before

regular business hours for members meetings, free health screenings, and seminars on topics from health insurance to pre-retirement planning.

Other mall merchants have gotten into the act by greeting any of the 8,000+ Resource Card holders with healthy discounts on everything from clothing and prescription eyewear to travel packages and books. The programs's ElderMe America, Inc., affiliation brings with it nationwide benefits. Members stay in touch with what's going on through their free subscriptions to both a quarterly magazine and the monthly *Resource Update* newsletter.

The Resource Center is grateful for the opportunity for the past 4 years to work closely with the volunteers of the Auxiliary to the Richmond County Medical Society in a variety of ways. We hope to play part in expanding the O.P.A.L.S. Forums throughout the state of Georgia and would encourage other auxiliaries to contact Beverly Dorn at 404/733-7262 for assistance or additional information.

Brandon Wilde

Another major endeavor is perhaps the Resource Center's crowning jewel: Brandon Wilde. Brandon Wilde is Augusta's first non-profit retirement community offering Life Care, a concept embracing wellness in all its aspects. Built on 3 beautiful acres in a close-in county setting, Brandon Wilde is a multi-million dollar investment in the future of its residents and in the future of independent living.

Virtually a self-contained city, Brandon Wilde features over 170 apartments and cottages as well as two separate nursing wings, one for personal care, the other for skilled nursing care. These two components offer a continuum of care guaranteed to be there when needed. More significantly, how

ever, thanks to the Life Care approach, they also offer the security of knowing the care is available without any additional cost to the resident as long as it is necessary.

The community also contains a bank, post office, store, beauty salon and barber shop, and a fully staffed 9,000 square foot Wellness Center, the first of its kind in the nation, containing an indoor pool, an array of exercise equipment, an arts and crafts center and a branch bank. Living at Brandon Wilde has been compared to living at the country club or a resort, but to residents it just feels like home. That's exactly the feeling expert planners have been carefully striving to create.

The team assembled to create Brandon Wilde includes a nation-

wide network of consultants, planners and designers, all recognized leaders in their field, most in the specialized field of retirement properties. Among them are Senior Living Consultants, our overall development, construction management and marketing team, and Monarch management, responsible for dining services and overall management of the facility. Even the architectural firm of Roger L. Schutte & Associates which designed Brandon Wilde has become specialized in the development of retirement communities, with more than forty to their credit across the country.

The future still holds many challenges as we continue to forge a new community at Brandon Wilde. All our considerable efforts to this point have merely provided a foun-

dation upon which to build and expand further. We are fortunate in having the 8000-member base of the AROCA membership that serves as a sounding board for future goals and needs. We survey them annually to determine new directions and refinements, reflecting their stated needs back to our two sponsoring hospitals.

The employees at Brandon Wilde have actually voted to do what they personally can toward making it the finest Life Care community in the southeast, and the residents provide a very strong and willing support group. Together we are well on our way to fulfilling our mission of helping every resident, employee and Resource member to be all that they can be. That is what wellness is all about.



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Reportedly, Yohimbine exerts no significant influence on cardiac stimulation and other effects mediated by B-adrenergic receptors, its effect on blood pressure, if any, would be to lower it; however no adequate studies are at hand to quantitate this effect in terms of Yohimbine dosage.

Indications: Yocon[®] is indicated as a sympatholytic and mydriatic. It may have activity as an aphrodisiac.

Contraindications: Renal diseases, and patient's sensitive to the drug. In view of the limited and inadequate information at hand, no precise tabulation can be offered of additional contraindications.

Warning: Generally, this drug is not proposed for use in females and certainly must not be used during pregnancy. Neither is this drug proposed for use in pediatric, geriatric or cardio-renal patients with gastric or duodenal ulcer history. Nor should it be used in conjunction with mood-modifying drug such as antidepressants, or in psychiatric patients in general.

Adverse Reactions: Yohimbine readily penetrates the (CNS) and produces complex pattern of responses in lower doses than required to produce peripheral alpha-adrenergic blockade. These include, anti-diuresis, a general picture of central excitation including elevation of blood pressure and heart rate, increased motor activity, irritability and tremor. Sweating, nausea and vomiting are common after parenteral administration of the drug.^{1,2} Also dizziness headache, skin flushing reported when used orally.^{1,3}

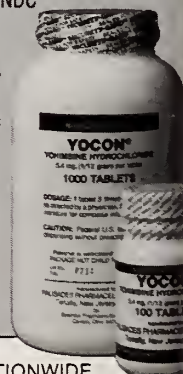
Dosage and Administration: Experimental dosage reported in treatment of erectile impotence.^{1,3,4} 1 tablet (5.4 mg) 3 times a day, to adult males take orally. Occasional side effects reported with this dosage are nausea, dizziness or nervousness. In the event of side effects dosage to be reduced to 1/2 tablet 3 times a day, followed by gradual increases to 1 tablet 3 times a day. Reported therapy not more than 10 weeks.³

How Supplied: Oral tablets of Yocon[®] 1/12 gr. 5.4 mg in bottles of 100's NDC 53159-001-01 and 1000's NDC 53159-001-10.

References:

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Running From the Reaper: The Key to Longer Life

Talmadge A. "Tripp" Bowden

TO REMAIN FOREVER young? An impossibility. To live forever? Even Methusala proved incapable of that. But living past our grace period of three score and ten is by no means too much to ask of our bodies.

In an age of remote controls and cars that practically drive themselves, we Americans find ourselves losing sight of what brought us here in the first place.

The unboundaried capacities of the human body. . . . Think for a moment of all we've accomplished both physically and mentally. The 5-minute mile, once considered mythical, has since been proven as real and accessible as a stroll through the neighborhood. Cross country bicycle races. Swimming the English Channel. Micro chips the size of a thumbnail containing libraries of information. Car phones. Answering machines. A full course meal in 5 microwaved minutes.

Indeed, man has proven time and time again there are really no limits as to what the human body and mind can accomplish.

According to Dr. Frank Jones, "Exercise made the passing years better years. When you exercise, I think you stay in a better frame of mind. It gives you a boost, makes you feel better."

Which brings us to the "accomplishment" of the human body we would rather not face: deterioration. Granted, some cannot be helped and yes, one day we all will be pushing up petunias. But putting extra weight on the body in places where it doesn't belong or sitting on the couch for hours while the

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Wheel of Fortune credits roll on television encourages this deterioration. You may as well pick up the phone and dial 1-800-Reaper.

Living healthy and living long is not something done "only by other people." With a few unfortunate exceptions, everyone can live long lives. No one will live forever, but I would gladly trade forever for the chance to watch my great-grandchildren spit-up on my shirt, build sandcastles and call me Grandpappy. Those sort of things don't happen in cemeteries.

Two Artists of Active Living

I would like to take a moment and explore the inspirational lives of two active physicians who are adept at the art of active living. The first is Dr. Frank Jones, a 77-year-old Augustan who still practices general surgery. The second is 78-year-old Dr. Henry D. "Speedy" Meaders, who resides in Cobb County where he currently holds six clinics a month at the Cobb Health Clinic.

My encounter with Dr. Jones began in his office, where he greeted me with a firm handshake and a brilliant smile. He was wearing scrubs, and though it was quite obvious I had interrupted his daily schedule, his openness made me feel very welcome.

In the Jones family, there is a history of longevity. Dr. Jones' father lived to be 92 as did his uncle. Both grandparents were in their late 80s before passing on. Though there has been some dispute over its validity, many feel heredity and long life are directly related.

Even though he had always led an active life, Dr. Jones said it wasn't until 1960 when Dr. Robert Ellison introduced him to a regimen called The Royal Canadian Exercise program that he became serious about physical health. Through the Program, he developed an undying love for jogging. At 47 years of age, Dr. Jones was soon running 5 miles a day. Had it not been for Father Time, he would have run further.

"As I passed the 5-mile mark, I decided I could not afford to take any more time with this rather exhilarating activity. As a result, I ran 5 miles a day, 7 days a week for 25 years, rarely missing a day, regardless of where I was or the weather. I'm sure there were a number of years that I did not miss a single day."

This persistency (during trips, he would run in hotels at 4:30 in the morning) had a powerful impact on Dr. Jones' life, so powerful he considers his exercise routine "one of the most important things I've ever done."

Said Dr. Jones, "Exercise made the passing years better years. When you exercise, I think you stay in a better frame of mind. It gives you a boost, makes you feel better. When you are out running at 60 years of age, you think, gosh, I'm doing about as good as I did when I was 30. It definitely improves your mental outlook."

As the years passed, Dr. Jones



At 77, Dr. Frank Jones, of Augusta, still practices surgery. He began jogging in his mid-forties and ran 5 miles a day for 25 years. He has curbed that distance now and runs only 3 miles and rides his Schwinn Airdyne 10 miles daily.

curbed his 5 mile a day jogs but not his passion for exercise. As of this writing, he jogs/walks 3 miles a day and spends 40-45 minutes (10 miles) on a Schwinn Airdyne, an exercise he considers equivalent to jogging.

Allotted the same 24 hours a day as you and I, Dr. Jones manages to find time for reading. He loves biographies of Teddy Roosevelt, listening to classical music, spending time with his family, and even an occasional round of golf. Add this to jogging 3 miles a day and pedaling 10 miles on a Schwinn Airdyne, and one can't help but be impressed and at the same time left in a state of wonderment.

How does he do it?

"It's a matter of getting your priorities straight," said Dr. Jones, with

a smile so electric he looked like a 5-year-old kid playing King of the Mountain.

Turning now to Dr. Henry D. "Speedy" Meaders, we see a 78-year-old retired Ob-Gyn specialist who continues to hold six clinics a week at the Cobb Health Clinic.

Like Dr. Jones, Dr. Meaders has a history of long life in his family. His father lived to be 78 and his mother an impressive 93 years.

Active throughout his life, Dr. Meaders taught school for 3 years after college, coaching football and basketball as well. Such activities ceased, however, when he entered medical school. "There wasn't time for anything else," he said.

Unlike Dr. Jones, Dr. Meaders has chosen a more relaxed approach for remaining physically and mentally healthy.

"Find something to do. Anything. Just don't sit. The more active you are, the better you're going to be."

Dr. Meaders feels the key to good health depends on three things. The first is background (what you eat and drink, how you spend your hours, etc). The second is simply remaining physically active, doing something. The third key is family history.

Dr. Henry D. "Speedy" Meaders: "Find something to do. Anything. Just don't sit The more active you are, the better you're going to be."

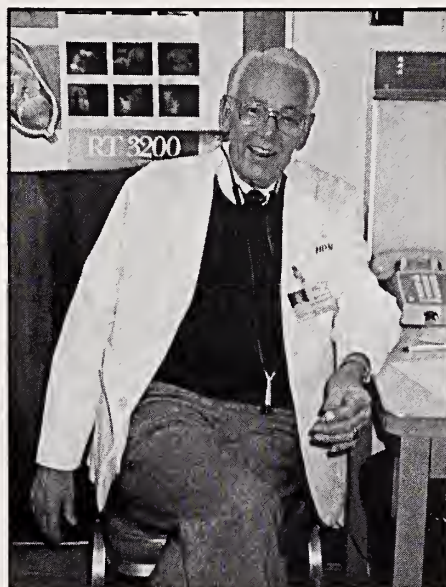
Dr. Meaders, who will be 79 this August, has no time for twiddling thumbs. Depending on the weather any given day might find him play-

ing golf, which he said he plays for exercise and companionship only, working at the Health Clinic, traveling with his wife (their next adventure is Mexico), walking through the neighborhood, doing yard work or fishing, which he said must "strictly be a man's sport" as his wife doesn't want any part of it.

Though not one for organized exercise, Dr. Meaders is a firm believer in the importance of "just doing something."

Said Dr. Meaders, "The more active you are, the better you are going to feel. I'm sure of that. Lord, if I sat down and did nothing, I'd probably die in 2 years."

In two years, Dr. Henry D. Meaders will be eighty. For most of us, that would be enough. But not for Dr. Meaders. He wants more.



Dr. Henry D. "Speedy" Meaders, though retired from his active OB-GYN practice, continues to hold six clinics a week at the Cobb Health Clinic. At 78, he believes that active living is essential to well being, and he lives that belief.

This driving need to do more is what we must instill in the bodies and minds of every human being, regardless of age. For those who are older, it is never too late to follow the Nike_R slogan "Just Do It." There is O.P.A.L.S., a self-help organization for Older People With Active Lifestyles. Workshop topics range from staying active to intimate aspects of marriage and aging. O.P.A.L.S. is presented by Auxiliary to the Richmond County Medical Society. Any curiosities can be answered by calling the Aging Connection (404) 733-5800.

Regardless of the road you choose towards a longer and healthier life, remember how much world is out there, and wouldn't it be a shame if you died before experiencing your share.

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The Old Medical College: A Living Monument to History and Medicine

Jane Downing Chandler

"THIS BUILDING REPRESENTS the history of our community,"

Augusta Mayor Charles DeVaney proclaimed at the ribbon-cutting ceremony at the Old Medical College on November 30, 1990, which celebrated the building's renovation and reopening. The building, the first permanent home for the Medical College of Georgia, is located on the corner of Augusta's Sixth and Telfair Streets between the old Richmond Academy building and the First Presbyterian Church and across the street from the Court House. The medical school was at this location from 1835 until December, 1912, when it moved during the Christmas holidays to the Newton Building, a former orphanage, on the site of a wing of the present University Hospital.

The extensive preservation project had as its objective the renovation of the 155-year-old building to permit it to be used as a modern facility while still keeping its original appearance. This project was made possible and undertaken with

After Richmond Academy vacated the premises in 1926, the building was left vacant for 5 years. In 1931, the Sandhills Garden Club in Augusta stepped into the void and rescued the building from virtual destruction by vandals.

the help of the MCG School of Medicine Alumni Association, the MCG Foundation, the Richmond County Medical Society, Augusta business leaders, friends and alumni of MCG throughout the state, and the Trus-

Mrs. Chandler is a member of the Auxiliary to the Richmond County Medical Society and is serving as the State Auxiliary Medical Heritage chairperson this year. Her address is 803 Milledge Rd., Augusta, GA 30904.

tees of the Academy of Richmond County.

The Trustees of the Academy of Richmond County represent the oldest organized group in Augusta. The original Trustees were the governing body of Augusta and as such obtained the land and built the building for the military school, the oldest continuous public military high school in the South, known today as Richmond Academy.

A committee organized by the Medical College of Georgia School of Medicine Alumni Association in 1983 and headed by Dr. Daniel Sullivan was formed to look into the feasibility of preserving the Old Medical College building. This committee came about as a result of a letter from Dr. Goodrich Henry urging that the magnificent and historic old building be saved. Later, Dr. Henry left a large amount of money in his will for this purpose. Dr. Bleakley Chandler, a member of several of the groups helping this project, succeeded Dr. Sullivan as chairman of the Alumni Associa-

tion Committee for the Old Medical College.

As the Alumni Association committee's work progressed, it became clear that there was confusion about the true ownership of the building. Many thought that the Augusta Garden Council owned the building and resented approaches being made by the committee.

After the groundwork was laid by Dr. Goodrich Henry and the Alumni Association for the renovation of the building, Craig Cranston, president of the Trustees of the Academy of Richmond County which owns the land and building, wrote a letter to the MCG Foundation offering to discuss a lease of the building to the Foundation. A Trustee's committee

Today, the Richmond County Medical Society once again holds its meetings in the ballroom of the Old Medical College. The building is being used for continuing education by the Medical College and will be rented to other groups for this purpose as well as for social functions.

was appointed to work with the Alumni Association's committee, the Foundation's committee, and the Garden Council to facilitate the arrangements of the renovation.

The air was cleared and the way paved for negotiations following this letter from Mr. Cranston to the Foundation. This letter triggered the action taken by the Foundation to adopt the project and secure a lease for the building. The Trustees made certain stipulations to which the Foundation agreed, and the lease was executed in November, 1987. John C. Hagler, III, chairman of the Foundation's committee, oversaw the project and, indeed, almost singlehandedly was responsible for its completion.



The Old Medical College before its recent renovation. Today it is a thriving, living historic symbol blended with the present life of the Medical College and of the Community. The grave of Dr. Milton Antony, founder of the Medical College of Georgia, is in the foreground.

Founded in 1828 by Dr. Milton Antony and his pupil, Dr. Joseph A. Eve, the Medical College of Georgia is the third oldest medical college in the Southeast and the eleventh oldest in the United States. A total of 2,345 Medical College of Georgia students graduated in the building.

In 1829, the Medical College decided it had to have its own permanent teaching building instead of the few rooms in the City Hospital it had been using for its school. It approached the Trustees of the Academy of Richmond County and

When the basement floor was being worked on during the renovation, long-buried human bones belonging to cadavers used in teaching were uncovered. It was an "anthropological gold mine."

The city of Augusta gave the Trustees of the Medical College \$10,000 for a building, a library, a museum and equipment.

In January, 1834, a contract was drawn up between the Medical College of Georgia and the City of Augusta by which script of \$5,000 was issued to the Trustees of the College upon them bonding themselves and their successors in office. It was agreed that they would furnish, at their own expense, medicine and medical attendance to the sick-poor in the hospital and to such prisoners in the jail as may need



Present at the opening of the newly renovated building are (L to R): Dr. Francis J. Tedesco, President of MCG; Dr. H. Gordon Davis, President of the MCG Foundation; and Mr. John C. Hagler, III, from the MCG Foundation.

the City of Augusta for help in carrying out this idea. The Trustees deeded the land on the corner of Sixth and Telfair, adjacent to Richmond Academy, to the Medical College to be used exclusively for a school of medicine. In the agree-

ment, the Academy students were to have certain privileges, and the building was to revert to the Trustees if it ceased to be used for medical education. The Trustees provided the land and the City provided the money to build the building.

medical care. Such an agreement was to have remained in effect for 10 years. With the \$15,000 thus obtained, the erection of the Medical College building was begun in May, 1834, on the land leased to the college by the Trustees of the Academy

of Richmond County. The building, although unfinished, was completed enough in 1835 for the school to move in.

The plans for the building were drafted by Charles B. Cluskey, a professional architect with formal training, which was rare at the time. Mr. Cluskey's work includes plans

Cluskey clearly had a sound grasp of the neoclassical principle. The entrance is austere and symmetrical with six Doric columns supporting a large pediment. It has been said that the building's stark aspect suggests a determination to create a concise architectural statement, as if to reflect the uncompromising principles of an institution of higher

The walls of the classrooms that originally surrounded the rotunda on the first floor were not reconstructed. An elevator, new kitchen and a smaller serving kitchen upstairs, and new bathrooms were also added. The building has a new room it was rewired, replumbed, new air conditioning and heating system were installed, a sprinkler system



The main room on the first floor of the Old Medical College will accommodate large conferences and seminars, with space for up to 300 people. When the oak wood floors were removed, the original floor of wide-board heart pine was uncovered. This was refinished and adds a lovely warm look to the room.

submitted to the U.S. Senate in 1856 for the renovation of the Capitol and the White House. His most noteworthy recommendation concerned the dome of the Capitol and was carried out in detail. Some of his suggestions for the White House were implemented as well. Cluskey worked to assist Thomas Jefferson and Benjamin Latrobe in the establishment of a national architecture.

learning. It has been referred to as the finest example of Greek Revival architecture in Georgia and is listed on the National Register of Historic Places.

The only major structural changes in the building in this just completed renovation were the removal and relocation of the stairs and the opening up of the rotunda.

was installed as well as a sophisticated audio-visual system. When the oak wood floors were removed downstairs the original floor of wide-board heart pine was uncovered. This floor was refinished and adds a lovely warm look to the building.

The first floor will accommodate large conferences and seminars with space for up to 300 people.

the main room and 100 in the solarium. The second floor also contains rooms for conferences, seminars and entertaining. The Richmond County Medical Society will have its own room which will serve as a small medical library. Medical history displays will be placed throughout the building to underscore its role as a monument to MCG's contributions to medicine. The basement contains a large storage area, a commercial dishwasher, restrooms, a mirrored dressing area for brides, and the building's machinery.

It was when the basement floor was being worked on that long-buried human bones belonging to cadavers used in teaching were uncovered. Dr. Robert L. Blakely, a Georgia State University anthropologist, was asked to come with nine of his students for several weeks to dig into what they described as an "anthropological gold mine." The next year, Dr. Blakely and his students were back to excavate and to try and determine the exact location of the city morgue, the dissecting room annex, and City Hospital. The dissection laboratory annex for the MCG students was a long narrow building built in 1837 to the rear of the school. In 1869, a new City Hospital was built which joined the annex in a "T" shape. The old City Hospital built in 1818 in the 100 block of Greene Street had only 10 beds and was inadequate. The City Dispensary is still standing and was where the kitchen is now. The solarium wasn't added until 1897.

Originally, the rooms on either side of the front door of the Old Medical College housed the reading room and the library. By 1860, there were 5000 books in the library. Lecture rooms surrounded the rotunda on the first floor. All the laboratories were in front on the second floor. The museum was fully supplied with every convenience for



The rotunda of the Old Medical College as seen from the first floor. The only major structural changes in the building in this just completed renovation were the removal and relocation of the stairs and the opening up of the rotunda. The walls of the classrooms that originally surrounded the rotunda on the first floor were not reconstructed.

Pathological, Anatomical, Physiological, and Obstetrical studies and was on the east (Richmond Academy) side of the building on the second floor. The anatomy lecture room was on the west side on the second floor.

During the War Between the States, the school was closed from 1861-1865. It was part of a large medical complex for the wounded which included the First Presbyterian Church, Richmond Academy, the Augusta Hotel, and other build-

ings in the vicinity. The Old Medical College building was not used for patients but for offices. The annex was used for an operating room.

When the medical school moved to the Newton Building, the building reverted to Richmond Academy and was used for classes. It was during this period that the rotunda was closed off from the first floor, the original stairs removed, and the entrance hall and new stairs added. This has been "corrected" in the current renovation. Holes were drilled in the floor of the main first floor room to run wiring to basement machinery when Richmond Academy used the room as a wood-working shop. These holes have been patched and matched as nearly as possible to the original heart pine. Richmond Academy held classes in the building from 1914 to 1926 when the Academy moved to its present location on

Walton Way.

The building was left vacant for 5 years during which time the Richmond County Medical Society looked into the possibility of saving it. The task was too great for the busy doctors, and it was left to the foresight and energy of Mrs. Rodney Cohen and the Sandhills Garden Club to rescue it. In 1931, the Sandhills Garden Club rescued the building from virtual destruction by vandals.

Since the 1930s, it has been used by various civic and social groups. It housed the U.S.O. canteen during World War II. In 1948, the Augusta Council of Garden Clubs took it over. They used one of the rooms for an office, and the old Dispensary was the province of the Sandhills Garden Club. The rest of the building was rented for parties, wedding receptions, and meetings. The Augusta Symphony used the

large second floor room on the west side for rehearsals. The Augusta Genealogical Society used the rooms on the east side for the headquarters. The Richmond County Medical Society held the fourth Tuesday night monthly meetings in the ballroom on the first floor.

Today, the Richmond County Medical Society again holds its meetings in the ballroom. The building is being used for continuing education by the Medical College and will be rented to other groups for this purpose as well as for social functions.

The Old Medical College Building is more than a shrine. It is a thriving, living historic symbol blended with the present life of the Medical College and of the community.

A Freshman Legislator's Perspective on Political Action

Representative Ann R. Purcell

AS THIS ARTICLE is being written, the United States and several allied nations have just begun a military campaign to end the war started in the summer of 1990 when Iraq took over Kuwait. The military actions are, of course, on everyone's mind. Like most of you, I hope it will be settled soon. The war news commands my attention more strongly because the international consequences of the Middle East conflict are more immediately felt and are potentially of more significance than the thought of writing an article about politics. However, I do see some common things — both require extensive planning and organization to be successful. Both require a lot of financial support and people to carry out the game plan. Also, a successful Army/Political Campaign must have a general/or leader willing to be responsible for what is done by the men/women in the field.

I was fortunate to win my first political campaign after what was (to me) a hard fought battle against



an incumbent — a 20-year veteran and another very vocal opponent.

A few days ago I was sworn-in as State Representative of District 129 and officially started my political career. I would like to relate to you some thoughts that seem important to me as I begin in politics.

Representative Purcell serves in the Georgia House of Representatives for District 129 (Effingham, Bryan, and Liberty counties.) Her address is P.O. Box 1295, Rincon, GA 31326.

1. What is the significance of politics to our daily lives? Does politics really matter to us as citizens — physicians — health care workers? It has been stated in the past that politicians are crooked, that politicians are not reliable; so, therefore why would anyone go into politics.

I personally feel that this is a way for someone to put public interest before one's own interests. I intend to uphold the public trust.

2. If politics is important, what can we do to influence politicians? What are medicine's political goals?

I feel that one should support their medical organizations, the Medical Association of Georgia, the American Medical Association, as well as the Auxiliaries. One should join and support the Medical Political Action Committees (GaMPAC and AMPAC). Remember that it is a constant battle to protect patients and the doctor-patient relationship. Problems encountered include *apathy* by people to get involved in

the political world and the *lack of understanding* about how to influence our legislators.

How can you help someone get elected? Get to know the legislator or candidate. Ask them how you can help. Ask what is his position and belief on issues. One can also make a contribution to help that individual get elected or re-elected. One should be willing to write to the local newspaper when the Legislator has done something that has been helpful to a group or to the community.

Other things that you can continue doing, besides voting, is to take time to put up posters for a political figure. Put signs on your property or a bumper sticker on your car. You can also help stuff envelopes, distribute handouts, flyers, cards, etc. Another opportunity for

**“We must remember
not to judge any public
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and especially should
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occasions and not the
cause of disaster.”**

THEODORE ROOSEVELT

you to help in the political world is to be willing to drive the candidate while he or she is campaigning door to door. You, as an individual, can use your influence and talk to peo-

ple with regards to the candidate.

After the legislator gets into office, be willing to suggest ideas and your views regarding issues. This will give the legislator the opportunity to consider the possibilities of drafting bills. Yes, you *can* be a vital part in helping someone to get elected. Once that individual is elected remember that they, too, are human just as you are. Do not be so quick to condemn. Theodore Roosevelt best expressed how we, as citizens, should acknowledge the duties and actions of a legislator when he said, “We must remember not to judge any public servant by any one act, and especially should we be aware of attacking the men who are merely the occasions and not the cause of disaster.”

The Model Medical Marriage

G. Douglas Talbott, M.D., Daniel Angres, M.D.,
Karl V. Gallegos, M.D., Kathy Bettinardi-Angres, R.N., Jan Collins

THE MARITAL UNION of the physician and spouse can be a model for today's society. The ideal medical marriage when analyzed represents the elemental and healthy components necessary for happy wedlock.

Fifty years ago, America's public viewed the physician, whether in a rural or urban setting, as the most trusted member of their community, truly a role model. Historically, his perception had evolved because so many of yesterday's doctors were paradigms of selflessness, honesty, and widely admired value systems. Sadly, in too many instances, this public perception has disappeared. However, the potential for the re-emergence of the physician and his or her life as a role model remains. The authors submit that analysis of current happy and healthy medical marriages are role models which deserve description, as once again they can serve as paradigms for society.

All of the authors have been ex-

In reviewing the ideal model medical marriage, this same commitment has been made by the physician to become knowledgeable and somewhat involved in the activities of the spouse.

Dr. Talbott is Director, Talbott Recovery Systems, and Clinical Professor of Psychiatry, Emory University School of Medicine, Atlanta; Dr. Gallegos is Director of Research, Caduceus Foundation, and an addiction medicine specialist; Dr. Angres is Executive Medical Director, Parkside Residential Outpatient Center of Woodridge, Chicago, IL; Ms. Bettinardi-Angres is a consultant, Affected Family Members Program, Parkside Residential Outpatient Center of Woodridge, Chicago, IL; and Mrs. Collins is a former president of the Auxiliary to the MAG. Send reprint requests to Dr. Gallegos, TRC, 5454 Yorktowne Dr., College Park, GA 30349.

tensively involved with treating physicians and their families. Marital assessment and therapy have been critical components in caring for these physicians, their spouses, and children. Substance abuse and emotional disorders have been the major illnesses which led to treatment in this group of physicians. Marital dysfunction was rampant, as alcohol and other drug addictions both exaggerate and emphasize the weaknesses of the medical marriage. However, in becoming proficient in treating more than 2,500 physicians and their families, the authors realize the components which define the validity of the medical marriage are the very components which determine the health or sickness of every marital union. Medicine and other health professions, legal/judicial, corporate business, commercial flying, etc. all serve as examples wherein demands are placed on individuals and their spouses which are exaggerated, but represent the elements present in any wedlock.

Four data bases were examined by the authors. These consisted of physicians and spouses in the studies conducted by Menningers, the Medical Association of Georgia's Auxiliary, the Georgia Impaired Physicians Program, and the Parkside/Illinois Program. Marriages were assessed and evaluated within seven major categories. It quickly became evident that these categories determined the health and success of a marriage. Because the physicians and their spouses were acutely aware of the critical nature of these elements, worked very hard to correct these elements, and continued to refine and develop these elements, some of the best, most healthy, and most satisfactory marriages were witnessed. A large number of these redefined and refined medical marriages could truly be called "model marriages."

The seven elements comprising the model medical marriages are categorized in sequential significance, according to the study of the four databases.

1. Partnership Trust

The healthy marriage must be based on bilateral trust, which is a product of honesty and sharing. In dealing with the healthy model marriage, it quickly becomes apparent that dishonesty is 40% lying, deceiving, and distortion of facts. Sixty percent of marital dishonesty is hiding or withholding emotions, facts, or events. So often, the illusion that "to let the partner know would hurt them" deceives the relationship and furthers the dishonesty. Dishonesty in medical marriages is not so much lying and deceiving, as it is withholding emotions and facts. Sharing is critical, for if the partnership does not experience each other's anger, resentment, fear, or pain, then they can't truly know each other. To truly trust the partner is to trust their negative and hostile feelings, as well as their positive feelings.

The authors submit that analysis of current happy and healthy medical marriages are role models which deserve description, as once again they can serve as paradigms for society.

2. Communication

This is a special, vulnerable area in medicine because as the physician is taught practices and then refines his/her role as a professional communicator, personal intimacy is edited out of them. Too many times, the authors have heard the complaints that the spouse (or the children) are tired of being dealt with "like a patient." Good professionals swallow feelings, hide their own emotions, and listen intently while they sublimate their personalities within the patient's problems. Good for the profession, but bad for the personal intimacy within the marriage. Communication needs to be practiced frequently with objective measurements from third parties or peer groups. This was done and practiced in good model medical marriages.

3. Priorities and Value Systems Within the Marriage

The delicate balance between work and personal lives must be constantly assessed and monitored. Medicine encourages and even dictates "workaholicism." This will interfere and destroy a marriage. The three priorities which frequently tend to be subverted are:

- a. The personal growth of the physician; (physical, emotional, and spiritual)
- b. The marriage and family;
- c. The job.

The pursuit of the medical career

tends to reverse these priorities, and unless they are kept in this original sequence, the ultimate role of the physician cannot be realized, for the physician must be balanced in his or her personal life, as well as his or her professional life. The profession of medicine constantly wants to emphasize the job, the career, medical advancements, success, and subsequently, income. "Delayed gratification," in terms of time spent with the spouse, the children, on vacations, and in the marriage, helps to justify these false value systems in the medical life. A simple but effective technique of a daily posting on the refrigerator door "life's priorities" by both the physician and the spouse, helps to keep these values in normalcy. Realizing that the female spouse's life may be involved with children or a job of her own, and the male physician's life is dominated by his profession, the marriage must remain a paramount priority in keeping with their own personal development.

4. Time Together

The most frequently asked question is, "How do you expect doctors in medical school, internship, residency, or private practice to have time for their spouses, marriages, and children?" Time for anything except his or her work seems to be the only alternative to many physicians. Universal is the authors' response that "there are no victims, only volunteers." Internships, specialties, and types of practice must be chosen with the priority of the "medical marriage" in mind. More and more medical schools, house staff training programs, and job placements are becoming sensitive to the needs of the healthy medical marriage and the providing of time for such. A marriage cannot be wholesome if time is not spent together.

Togetherness is required for sharing, intimacy, and growing together as a couple. The very system

of medicine would dictate that this be delayed or put off. Too often, these delays will destroy the health of a marriage. One renowned chief of medicine at a teaching hospital used to give his house staff residents a picnic basket and demand of them to take their spouse once a week on a picnic lunch. In many ways, this physician was a very effective marital therapist.

5. Sexual Compatibility

Hidden in the practice of medicine is the fact that many physicians deal with the human body daily in examinations and treatment. This practice in one way or another does influence, often at a subconscious or subliminal level, the attitudes and the way in which the physician deals with the spouse in their sexual relationships. After hundreds of interviews, it is apparent that physicians do not discuss freely and openly sexual subjects with their spouses. The kind, intensity, and duration of sexual foreplay was found to be absent in discussions in a large number of medical marriages. Once again, there was an integrating in the mind of the physician between the spouse and the patient. The "taking for granted" and the "I assume" attitudes, which so many spouses verbalized to the authors and therapists, were major problems in the relationship. On the other hand, in the model medical marriage, open discussion about sex, sexual practices, and ongoing discussions about sexual pleasures were a very important component of the healthy medical marital union. The culture continues to give mixed messages about sexual practices, and open communications about sexual issues will destroy these fallacies and misunderstandings. If open discussions were not present in the medical marriage, serious sexual problems often resulted.

6. Interest In Each Others Friends and Activities

One of the most common com-

Sharing is critical, for if the partnership does not experience each other's anger, resentment, fear, or pain, then they can't truly know each other.

plaints from spouses is that their physicians cannot talk about anything except medicine, and his/her friends can only discuss the practice, the patients, or the hospital. Additionally, the activities and friends of the spouse seem trivial and insignificant compared to the physician's life and death daily struggles. This not only demeans the spouse, but it hurts the medical marriage. Additionally, the imbalance wherein medicine is dominant in the physician's life hurts his/her own growth in their spiritual, emotional, and physical life outside of the profession. Reading and understanding non-medical books is as important as pursuing the latest medical texts and journals. Analysis of the data on the model medical marriage demonstrates the importance of physicians showing great interest in the spouses' activities and friends, and involvements in their projects. When the spouse responds with being involved in the medical auxiliary, and to a degree involvement in the physician's practice, life then assumes an ideal reciprocal relationship. More and more, the enlightened chiefs of services at teaching hospitals are requesting the spouses of their newlywed house staff to spend 24 hours in the hospital — to sleep there, to accompany their husband/wife for a full day on the job at the clinics and hospitals, so they might understand the dimension of the medical life. This is being done in a number of the specialties. This gives the spouse a new apprecia-

tion of the medical practice and the physician's life.

In reviewing the ideal model medical marriage, this same commitment has been made by the physician to become knowledgeable and somewhat involved in the activities of the spouse. Again, it reverts to the basic principles of communication, sharing, and trust.

7. Reassessment and Reevaluation of the Marriage Components

A physician's life and relationships are nonstationary and change dramatically and profoundly with the changes of his/her professional career. Commitments, promises, and interests may be valid in the beginning, but subject to change when career, job placement, and aging occur. It is important, therefore, to constantly recheck and reassess objectively the components which determine a healthy model medical marriage. This cannot be done subjectively, as it requires third party objectivity. Workshops and peer groups dealing with the medical marriage are proving very effective. Counselors and marriage therapists are available and effective when individual therapy is indicated. Review of data in the ideal model medical marriages indicate that a large number of these couples were involved in periodic workshops or peer group reviews of their relationships.

As America continues to struggle with the chemical culture, it searches for role models. Once again, the physician, the medical professional, can recapture the function of providing such a model with a healthy, happy marriage. The components to achieve this happy, effective marital union are described, as determined by the analysis of several thousand medical marriages. Serving as role models, the American physician can once again recapture public esteem and trust.

What to Look for in a Retirement Community

Shelda Cooke

What should you look for in a Retirement Community? When considering a Retirement Community, look for desirable dining, abundant amenities, and adaptable activities.

Desirable dining is important to consider as you choose a Retirement Community. What is the general appearance of the dining facility? Is it a relaxing, clean, well-furnished place where you could enjoy a leisurely meal?

Abundant amenities are essential when choosing a Retirement Community. One of the most important amenities is the clinic facility. Are licensed nurses available 24 hours a day in the case of an emergency? Is there an infirmary available to care for residents during a short-term illness?

Adaptable activities are a must! Are some of the recreational activities designed to stimulate the residents intellectually?

If you are looking for a Retirement Community — a place that offers congregate living geared to retirees — be sure to ask the right questions. If you do, you will find a Retirement Community that will be the very best to meet your needs — physical, social, and emotional.

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Medicaid's New Prescription Drug Legislation: Prudent Purchasing and Drug Use Review

John M. Coster, R.Ph., Ph.D.

The following article is included in this issue of your Journal not so much because your Editor feels that a discussion of Medicaid engenders a sense of unrestrained enthusiasm on the part of anyone, but primarily because it uses the Medicaid program as a means of introducing all of us to the intricacies of the financing of health care in these days in which we all live. Read it then as an educational tool concerning the devious and serpentine routes by which the rules we live by in this are age constructed.

Introduction

AS THE GAVEL on the session of the 101st Congress came down in the early morning hours of October 28, 1990, a new era in the way that the federal government purchases pharmaceuticals was established. Included in the \$500 billion five-year deficit reduction agreement narrowly passed by the House and the Senate were prudent pharmaceutical purchasing provi-

Pharmacists are expected to collect and record drug-related information about the patient and check new or refill prescriptions for drug interactions or adverse drug reactions.

sions for the Medicaid program that are expected to save \$3.4 billion in tax dollars over five years — \$1.9 for the federal government and \$1.5 for the states. These savings will be achieved by significantly reducing the price that the \$5 billion national Medicaid drug program pays for pharmaceuticals. Medicaid is the \$50 billion federal-state health care program for the poor.

Dr. Coster is with the United States Senate Special Committee on Aging, Washington, D.C. This article was prepared for the Center on Drugs and Public Policy, University of Maryland Graduate School, Baltimore.

The primary Congressional architect of legislation designed to provide a better price to the Medicaid program was Senator David Pryor (D-Ark). Pryor, as Chairman of the Senate Special Committee on Aging, was very disturbed to learn that the Medicaid program, one of the single largest purchasers of prescription drugs in the country, was being denied access to the discounts on pharmaceuticals that other purchasers, such as hospitals and HMOs, routinely received. His objective was to secure these discounts for the Medicaid program. To achieve his intent, Pryor introduced two bills during the Congress — S. 2605, the Pharmaceutical Access and Prudent Purchasing Act, introduced on May 12; and S. 3029, the Medicaid Anti-Discriminatory Drug Price and Patient Benefit Restoration Act, introduced on September 12.

The first bill required states to form their own prescription drug buying groups or join a federal prescription drug buying group. These

groups would act as drug purchasing agents for the Medicaid program, and would solicit bids from drug manufacturers to have their products included on the state's Medicaid drug formulary. This process was structured to emulate the very successful purchasing practices of hospitals and HMOs. The bill was criticized by the Pharmaceutical Manufacturers Association (PMA) and several minority groups as an attempt by Pryor to provide "second class medicine" to the nation's poor. These groups believed that the bill would lead to restrictive formularies which would result in Medicaid patients receiving only the cheapest drug product in each drug class. However, others believed that the PMA was more concerned that the bidding system used in the bill would be employed by other third party prescription plans and HMOs to bargain with the manufacturers over the price of their drugs.

The second bill, S. 3029, was introduced in response to various Medicaid drug discount plans that had been developed by drug manufacturers in the Spring and Fall of 1990, such as the Merck Sharp and Dohme (MSD) Equal Access to Medicines plan. This proposed legislation required manufacturers to offer Medicaid the "best price" for a prescription drug that they charged any purchaser in the marketplace. To assure savings over time and to hedge against manufacturer price increases, the "best price" could increase no faster than the Consumer Price Index-all urban consumers (CPI-U). There was a minimum discount of 10%. State Medicaid programs would be required to cover all drugs for those companies that gave discounts, but states could still use a prior authorization process to encourage appropriate utilization of high-priced or clinically misused products.

Although some contended that

The PMA saw the legislation as an opportunity to eliminate, through federal legislation, their number one nemesis in state Medicaid programs: drug formularies.

the indexing feature in Pryor's second bill was tantamount to price controls on pharmaceuticals, the Congressional Budget Office (CBO) emphasized to congressional staff that long-term savings on prescription drugs in the Medicaid program were uncertain unless there was some way to guard against manufacturer price increases. In the final days before passage, even the industry admitted that they would have to live with some form of indexing, and, although pushing hard for the index to be pegged to the CPI-Medical Index (CPI-M), the Congress was not willing to allow drug prices to inflate higher than CPI-U for Medicaid. In general, CPI-U is lower than CPI-M.

A modified form of Pryor's second bill was sponsored in the House by Congressmen Ron Wyden (D-OR) and Jim Cooper (D-TN), both members of the Energy and Commerce Committee, which has jurisdiction over Medicaid. Wyden is also a member of the Subcommittee on Health and the Environment, chaired by Congressman Henry Waxman (D-CA). Waxman saw the drug provisions as a way to find monies to expand Medicaid programs for elderly and children — programs that he believed had been neglected for years. While the original target for savings from pharmaceuticals was \$1.6 billion over five years, the House-Senate reconciliation conference agreed to in-

crease that amount to \$1.9 billion to pay for some of the Medicaid expansions.

Impact on the Pharmaceutical Industry

Beginning January 1, 1991, pharmaceutical manufacturers are required to give the Medicaid program a specific schedule of rebates as a condition of coverage of their prescription drug products. For manufacturers of single-source (such as AZT, Seldane) and innovator multiple-source drug products (such as Valium, Motrin), there is a minimum rebate of 12½% off the Average Manufacturer's Price (AMP) for 1991 and 1992, with the minimum rebate increasing to 15% in 1993 and beyond. Manufacturers would have to give Medicaid, however, the higher of this minimum rebate or the difference between the AMP and the manufacturer's "best price" for that product. The AMP is the price that manufacturers charge wholesalers to buy their products.

In the legislation, "best price" includes those prices that manufacturers offer to hospitals, HMOs, and certain components of the Department of Veterans' Affairs (DVA), and are to be determined regardless of manufacturer's packaging, such as unit dose products. The definition of "best price" excludes DVA depot drug prices and single award contracts (such as the contract that the DVA currently has with a major supplier of IV solutions) and "nominal" prices offered to charitable groups or organizations. These exemptions were made for several reasons. Federal government depot prices reflect the manufacturer's costs of delivering the product in bulk to a provider, without packaging costs. The provider, such as the DVA, then assumes the costs of repackaging and shipping to individual outlets. Medicaid is a reimbursement system, not a direct purchaser of drugs, so it seemed unfair for Medicaid to have access to prices that are determined based

on this mode of distribution. DVA Federal Supply Schedule (FSS) prices are not excluded from consideration. In addition, Congress did not want to threaten the prices that charitable organizations and clinics such as "Planned Parenthood" pay for drugs, such as the pennies a pack paid for birth control pills, and therefore excluded them from the definition.

An "additional rebate" will recover any increase in the average manufacturer prices over the rate of inflation, as measured by the Consumer Price Index-all urban consumers (CPI-U). The additional rebate is calculated on an individual drug basis for the first three years, and then switches to a system of aggregation in 1994.

Drug manufacturers have significant incentives to participate in the Medicaid rebate program since there will be no federal Medicaid matching funds available for the drugs or those manufacturers that have not entered into a rebate agreement. However, manufacturers that have rebate agreements in effect will have all their products covered by the state Medicaid programs. This is a particularly significant victory for the drug companies since many state Medicaid programs do not cover all drug products of all manufacturers for both cost and patient care reasons. In addition, there is usually a significant lag time between the marketing of a new drug and coverage by a state Medicaid program. Now, all new drugs will have to be covered immediately by a state Medicaid program for a period of not less than six months after approval. All these benefits will have significant "spill-over" effects for the prescribing of a drug company's products by physicians in other sectors of the ambulatory care market.

Congress developed different rebate amounts for generic drug products: the rebates will be 10% off the AMP in 1991-1993, and 11%

Now, Congress has mandated that state Medicaid programs pay a fair price for drugs, and there is tremendous opportunity to improve the drug use patterns in a population of individuals known for taking a large number of medications — the poor and elderly.

off the AMP thereafter, with no indexing provisions. These rebates are different from the rebates for the single-source and innovator multiple-source products because the generic industry has more competitive prices and generic companies operate on much smaller profit margins than do the brand name companies.

Relief for the States

A major objective of the legislation was to provide financial relief to the state Medicaid programs that were having trouble making ends meet in their prescription drug program. It is projected that states will save \$1.4 billion on drugs costs over the next 5 years as a result of the legislation. The states do, however, incur some additional responsibilities under the legislation relating to coverage of prescription drug products.

One of the major issues discussed during the debate was Medicaid beneficiaries' access to prescription medications. The manufacturers argued that states were unnecessarily and artificially restricting Medicaid patients' access to drugs for cost reasons, especially new products. The states

argued that they could not afford placing new, expensive drugs on their formulary while they already covered drugs that they thought were as good, and less expensive, than new alternatives. The PMA saw the legislation as an opportunity to eliminate, through federal legislation, their number one nemesis in state Medicaid programs: drug formularies. In the end, however, the drug companies were only partially successful in their effort.

The compromise requires states to cover single-source drugs and innovator multiple-source drugs (when a restrictive prescription has been issued) only if the drug's manufacturer has entered into an acceptable rebate agreement with the Secretary of Health and Human Services. The drugs of manufacturers not providing an acceptable rebate WILL NOT be eligible for federal matching funds UNLESS the drug has been designated a "1-A" drug by the FDA and the Secretary has approved the state's determination that the drug is "medically necessary" for the state's Medicaid population.

To address the industry's concern that Medicaid patients arbitrarily would be denied access to new, breakthrough drug products, state Medicaid programs have to cover new drugs for a period of 6 months after approval, after which time the program may place the drug on prior approval. Prior approval requires the prescriber to obtain "permission" to use the drug from the Medicaid program before it can be prescribed. The law allows the states to place all drugs on prior approval, and there are a limited number of drug classes that states, at their option, may exclude from coverage for Medicaid patients, even if subject to a rebate agreement, such as drugs to promote fertility or hair growth.

The bottom line for the state Medicaid programs is that they are likely to save millions of dollars

each year on prescription drug costs, which should allow them to remove some of the restrictions that have had to be implemented to control costs, such as limits on the number of prescriptions that a Medicaid patient can have dispensed each month.

Impact on Pharmacy Providers

Medicaid Reimbursement Reform

Pharmacy providers are likely to be as relieved as the states that the manufacturers will be participating in cost containment by giving rebates to Medicaid. Like many other members of Congress, Senator Pryor strongly believes that pharmacists have been targeted by HCFA as the exclusive focus of drug program cost containment efforts in Medicaid — efforts that were unsuccessful because the pharmacist had no control over the cause of the problem: manufacturer price increases.

Senator Pryor made Medicaid pharmacy reimbursement reform a major policy objective of the legislation. His original bill, S. 2605, restructured the Medicaid reimbursement system, basing reimbursement on the competitive nature of the pharmacy marketplace. Reimbursement would have been pegged at the pharmacist's usual and customary charge, capped at 90% of state-wide actual charges for that prescription. The theory was that the competition that exists among pharmacists in the retail marketplace would result in lower prices being passed on to state Medicaid programs.

However, Pryor's reimbursement reforms came under sharp attack from HCFA, the state Medicaid programs, and pharmaceutical manufacturers. These groups argued that the reform was inflationary, and would negate any program savings achieved under the manufacturer rebate system. Manufacturers charged that the potential increase in payments to pharmacists made under the system was analogous to

It is projected that states will save \$1.4 billion on drugs costs over the next 5 years as a result of the legislation.

“robbing Peter (the manufacturers) to overpay Paul (the pharmacists).” In addition, the trend in health care policy reimbursement over the last decade has backpeddled from charge-based reimbursement. Policy makers feared that other provider would also demand charge-based reimbursement if pharmacists were successful in their quest. Pryor, however, had data from a large outpatient prescription drug program that refuted these assertions.

In the second bill, however, Pryor tried to allay the fears of state Medicaid directors worried about the financial impact of a charge-based reimbursement system. He introduced a provision that would provide for a 5% set aside as a restitution payment for pharmacists for what he characterized as a decade of unfair reimbursement cuts. That is, states would have to set aside 5% of the rebates they received from the manufacturers and provide this back to pharmacists in a lump sum payment in proportion to the number of Medicaid prescriptions that they dispensed. The bill also provided for a two-year moratorium on any changes by the states or HCFA in reimbursement levels to pharmacists for those states that were in compliance with the reimbursement regulations.

When the final package was crafted, conferees decided to drop the set aside and extend the moratorium on reimbursement reductions to four years, January 1, 1991. The sense was that the development of a set aside would be a poor

policy precedent since other health care providers might want similar provisions enacted for them. In the end, the four-year moratorium may well provide greater financial respite to pharmacists than a set aside. The moratorium will prevent HCFA and the states from focusing drug program cost containment efforts on pharmacists and will give states sufficient time to study whether current pharmacy reimbursement rates are adequate. To make this determination, the Secretary is required to conduct a study of states' Medicaid pharmacy reimbursement rates, including dispensing fees.

Pharmacists' Counseling and Drug Use Review Provisions

The new Medicaid law contains several provisions that have the potential to significantly improve the prescribing and dispensing of drugs to Medicaid patients. The legislation establishes a comprehensive program of drug use review with a prospective component, which consists primarily of pharmacists' counseling patients on drugs use, and a retrospective component, which is designed to identify and correct long term patterns of inappropriate drug use.

With respect to the prospective component, the Congress recognized the professional skills and training of pharmacists by adopting language that asks pharmacists to review the appropriateness of drug therapy at the point of dispensing, and to counsel Medicaid patients on the use of their medications. Pharmacists are expected to collect and record drug-related information about the patient and check new or refill prescriptions for drug interactions or adverse drug reactions.

The provisions related to counseling ask pharmacists to offer to talk to patients about how to take their medications. The patient counseling guidelines in the bill reflect the national standards adopted

by the National Association of Boards of Pharmacy (NABP) in 1990. NABP and the major pharmacy practitioner organizations, APhA and NARD, were strong supporters of these provisions, recognizing that the profession needed to send strong signals to Congress concerning its role in protecting and enhancing public health.

Pharmacists should be assisted in fulfilling their counseling responsibilities to Medicaid patients as a result of two demonstration projects that are mandated under the law. The first requires the Secretary to complete a multi-site demonstration study by January 1, 1995, of the cost-effectiveness of paying pharmacists for cognitive or clinical services, including reimbursing a pharmacist for not dispensing a drug when there is potential for an adverse drug effect. In the other study, the Secretary must conduct a ten-state demonstration project of the effectiveness of providing information through an electronic claims transfer system about a patient's drug and medical history that will assist pharmacists in fulfilling drug therapy screening and patient counseling requirements. Information would be captured in a central repository of information so the pharmacist would have a patient's complete medication profile that would assist in detecting adverse reactions and therapeutic duplications.

State Medicaid programs are currently required to have a program to identify patterns of fraud

When he learned that Medicaid was being denied access to the discounts on pharmaceuticals that other purchasers, such as hospitals and HMOs, routinely received, U.S. Senator David Pryor introduced legislation to secure these discounts for the Medicaid program.

and abuse in the prescription drug program, such as detecting over-prescribing and overdispensing of controlled substances. Under the new law, states will be required to develop a program of retrospective utilization review and educational outreach targeted at improving the drug prescribing and dispensing practices of health professionals. Prescription drug data for this purpose will be collected and compiled from the claims data submitted by pharmacies. The data would then be analyzed by state drug use review boards, established to oversee the operation of the state's entire DUR program. To insure that the retrospective program focuses on improving therapeutic outcomes, one-third of the members of the board must be practicing

pharmacists, and one-third must be practicing physicians. The DUR board is also responsible for designing educational interventions for health professionals, which may include mailings, face-to-face meetings, or educational conferences or symposiums.

Pharmacy stands to gain both in economic and professional terms under the bill. No other providers have enjoyed a 4-year moratorium on reimbursement reductions in a third party health care program. In addition, the demonstration projects should help pharmacists firmly establish their role in the health care system as more than just dispensers of medications.

Conclusion

In 1991, the relationship between the pharmaceutical industry and the federal government begins a profound change. As Senator Pryor said on the floor of the Senate many times, in the past the federal government and the state Medicaid programs have essentially "paid what the the drug manufacturers have asked for." In 1990, Congress recognized that it was squandering an opportunity to use its tremendous purchasing power for prescription drugs to obtain a better deal from the manufacturers. Now, Congress has mandated that state Medicaid programs pay a fair price for drugs, and there is tremendous opportunity to improve the drug use patterns in a population of individuals known for taking a large number of medications — the poor and elderly.

MRI UPDATE



Figure 1

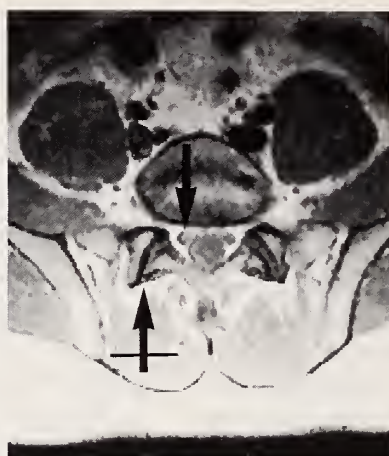


Figure 2

CLINICAL HISTORY: This is a 26-year-old male with back pain and right lower extremity radiation.

FINDINGS: This is an example of a normal study on a young adult. **COMMENT:** MRI is the screening test of first choice for suspected disorders of the lumbar spine. Notice the clear depiction of the normal L5-S1 disc (figure 1, crossed arrow). The discs of this patient exhibit high signal intensity reflecting normal hydration and none of the discs are narrowed. None of the discs indent the thecal sac which is of intermediate signal intensity and appears as the gray band

in the center of the image. The vertebral bodies are homogeneous and free of destructive lesions. The conus medullaris (arrow) is normal. This sagittal image demonstrates the advantages of MRI over other screening modalities. Routine CT scanning will not display the conus medullaris, lesions of which may masquerade as disc herniation. The general area of coverage is superior with MRI. Disc detail is much better displayed with MRI.

The axial image at L5-S1 (figure 2) exhibits delineation of intraspinal detail far superior to that of CT. The right S1 nerve root is clearly

displayed (arrow) surrounded by normal perineural fat which is the bright high intensity material in the periphery of the spinal canal. State-of-the-art MR images clearly display the bony anatomy of the lumbar spine including the facet joints (crossed arrow). Degenerative diseases and bony neoplasm are routinely detectable.

MRI involves no ionizing radiation and no intrathecal contrast material is needed. It is a patient-friendly outpatient examination well suited for screening purposes.



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Cooperating With Business Rivals? From Ski Facilities to Hospital Joint Ventures

Robert N. Berg

THE FIRST FEDERAL antitrust laws enacted in the late 19th century were originally designed in part in order to undo, and prevent the recurrence of, large accumulations of market power by trusts and substantial corporations. Since then, it has not always been easy to understand or apply the antitrust concepts and principles involved in the determination of whether an activity constitutes unlawful monopolistic behavior, on the one hand, or simply involves aggressive, lawful competitive behavior, on the other hand. This fine line — between lawful and unlawful activities — becomes critical in inquiries as to how far a business with significant market power must go in dealing with its rivals.

In 1984, the United States Supreme Court decided a case, involving ski facilities in Aspen, Colorado, which appeared almost to impose a duty on a business to cooperate with its competitive rivals, under certain delineated circumstances. Although subsequent cases appear to have retreated from this position, a recent case, in the Eleventh Circuit Court of Appeals (the Circuit in which Georgia Federal courts sit), dealing with a hospital durable medical equipment joint venture, has resulted in a renewed interest in this antitrust theory. This month's Legal Page looks at these two cases.

Cooperating with One's Business Rivals

In the late 1970s, Aspen, Colo-

rado, boasted four significant ski resorts. Three of these resorts were owned by the Aspen Skiing Company (Aspen Mountain/Ajax, Buttermilk, and Snowmass); the fourth resort, Highlands, was owned by a rival company. Throughout the 1960s and early 1970s, the companies maintained a joint marketing arrangement, whereby skiers could purchase multi-day tickets, redeemable on a given day at any of the four facilities; the two operating companies would divide up revenues, based upon actual usage statistics.

In the late 1970s, the Aspen Skiing Company decided to discontinue the joint marketing arrangement. Although its stated reasons suggested administrative and other difficulties with the arrangement, it was primarily motivated by the belief that it could do better economically — and cause the other ski facility operator to do worse — by marketing its own three facilities on a package basis. It also took certain additional actions, apparently designed to make it more difficult for the other owner to market its own multi-area package. Ultimately, the smaller owner filed an antitrust suit against the Aspen Skiing Company, contending that its rival's actions violated the Federal antitrust laws.

The United States Supreme Court

agreed,¹ holding that the refusal to deal and other actions by the Aspen Skiing Company violated the antitrust laws. The Court started its analysis by noting that no company — not even one with monopoly power — has a general duty to cooperate with its rivals. Indeed, the Court expressly found that the Aspen Skiing Company had no general duty to engage in a joint marketing program with its competing ski facility operator.²

At the same time, the Court found that the law imposed certain duties on the Aspen Skiing Company, as a "monopolist" (an entity with substantial market power in a particular relevant market), such that the breach of those duties could constitute a violation of the antitrust laws. In particular, the Court pointed to the fact that the decision to terminate the joint marketing arrangement represented "an important change in the character of the market."³ Moreover, the Court found that the decision was made *not* on the basis of legitimate business concerns, but instead in a deliberate effort to discourage its customers from doing business with its small rival. Also significant to the Court was the fact that, in effect, the decision to stop the joint marketing arrangement sacrificed short-run profits and consumer goodwill, presumably in exchange for a perceived long-run impact on its rival's business. This type of irrational business behavior, to the Court, was the hallmark of an unlawful refusal to deal.⁴

This article was prepared at the request of the *Journal*. Mr. Berg is a principal in the law firm of Vincent, Chorey, Taylor, & Feil, Suite 1700, The Lenox Building, 3399 Peachtree Rd., Atlanta, GA 30326.

Since 1985, the *Aspen Skiing Company* decision has been subject to a great deal of debate. Viewed narrowly, the decision is argued by some to stand for the proposition that a firm having substantial market power, and in particular having an "essential facility," may not undertake certain types of "hard core" competitive activities, if the result will be to destroy its business rivals. Viewed more expansively, the decision is argued by others to mean that firms with monopoly power may be required to provide benefits to their competitive rivals, in order to avoid engaging in conduct deemed to violate the antitrust laws. A recent Eleventh Circuit case, analyzing a hospital durable medical equipment joint venture, would appear to support this latter interpretation.

Cooperation with Rivals in Health Care Joint Ventures

In *Key Enterprises of Delaware, Inc. v. Venice Hospital*,⁵ a retail supplier of durable medical equipment (DME) challenged a joint venture formed by a competing DME supplier and an affiliate of Venice Hospital. The Plaintiff contended that, prior to the joint venture, the Hospital had prohibited direct contact between DME suppliers and Hospital patients, with most patients choosing their medical equipment based on recommendations from home health nurses who consulted with them prior to discharge from the Hospital. After the joint venture, however, an employee of the joint venture, located in the Hospital, was placed in charge of arranging all equipment rentals for Hospital patients and all medical equipment business was referred to the joint venture, unless the patient specifically requested another supplier.⁶

As a result of this and other similar activities, the joint venture's share of the local DME market (the market for prosthetic devices, hos-

pital beds, oxygen equipment, wheelchairs, walkers, and the like) increased from 9% to more than 60% in a little more than 2 years. Concurrently, the market shares of competing DME suppliers, including the Plaintiff, dropped dramatically. The Plaintiff alleged that, among other things, the joint venture's activities constituted monopolistic behavior, violating the Federal antitrust laws. In part, these allegations relied on the underlying premise that, since the Hospital had "cooperated" with the joint venture, it was also required to cooperate with the venture's business rivals.

A Federal jury agreed with the Plaintiff, awarding it total damages in excess of \$2 million. The trial judge reversed the jury, finding that the evidence did not support the verdict. On appeal, the Eleventh Circuit Court of Appeals reversed the trial judge and reinstated the jury verdict, finding that the Plaintiff indeed had established facts which would support the verdict. In particular, citing the *Aspen Skiing Company* case, the Eleventh Circuit noted that the Hospital's decision to allow a joint venture representative access to its patients, along with limiting the authority of home health care nurses to discuss the patients' DME needs, was a "decision by a monopolist to make an important change in the character of the market," virtually identical to the decision by the *Aspen Skiing Company* to stop marketing jointly with its rival ski facility operator.⁷ The Court was also persuaded by the fact that, with the action taken by the joint venture, there was virtually no way for competing DME suppliers to have access to Hospital patients, which represented a significant portion of the total patient population in the relevant market.⁸ Accordingly, the Court upheld the jury verdict in favor of the Plaintiff.⁹

Conclusion

Like the *Aspen Skiing Company* case, the *Key Enterprises* case is subject to both narrow and broad interpretations. Viewed narrowly, this recent decision may be construed as indicating nothing more than that hospital joint ventures will be closely scrutinized under the antitrust laws, just as joint ventures in other industries may give rise to antitrust allegations, depending upon the market power of the joint venture and the particular actions taken.

On the other hand, a more expansive reading of the *Key Enterprises* case may signal significant problems for hospitals and others involved in large joint ventures. Indeed, in an interview in a local newspaper, one of the attorneys for the defendants commented that "this decision puts hospitals with any outside patient care business at incredible risk for the very activities which are the hospitals' best hope of staying in business." This attorney went on to suggest that the case "could cost hospitals across the nation billions in settlements if [the case is] not overturned."¹⁰ We will be looking at additional cases in this area, over the next few years, to see which reading of the *Key Enterprises* case proves to be the correct one.

Notes

1. *Aspen Skiing Co. v. Aspen Highlands Skiing Corp.*, 472 U.S. 585, 105 S.Ct. 2847, 86 L.Ed.2d 467 (1984).

2. *Id.*, 86 L.Ed.2d at 479.

3. *Id.*, 86 L.Ed.2d at 481.

4. *Id.*, 86 L.Ed.2d at 482.

5. 1990-2 CCH Trade Cases ¶69,280 (11th Cir. 1990).


6. *Id.*, at pp. 65,035-37.

7. *Id.*, at pp. 65,030-39.

8. *Id.*, at p. 65,040.

9. The Court also found that the defendants had engaged in other activity violative of the antitrust laws, including conspiracy and attempt to monopolize under Section 2 of the Sherman Act.

10. *Fulton County Daily Report*, January 16, 1991 at p. 4.



THERAPY THAT MAY BE AS SILENT AS HYPERTENSION ITSELF

VASOTEC is generally well tolerated and not characterized by certain undesirable effects associated with selected agents in other antihypertensive classes.

VASOTEC is contraindicated in patients who are hypersensitive to this product and in patients with a history of angioedema related to previous treatment with an ACE inhibitor. A diminished antihypertensive effect toward the end of the dosing interval can occur in some patients.

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VASOTEC is available in 2.5-mg, 5-mg, 10-mg, and 20-mg tablet strengths.

Contraindications: VASOTEC* (Enalapril Maleate, MSO) is contraindicated in patients who are hypersensitive to this product and in patients with a history of angioedema related to previous treatment with an ACE inhibitor.

Warnings: Angioedema: Angioedema of the face, extremities, lips, tongue, glottis, and/or larynx has been reported in patients treated with ACE inhibitors, including VASOTEC. In such cases, VASOTEC should be promptly discontinued and appropriate therapy and monitoring should be provided until complete and sustained resolution of signs and symptoms has occurred. In instances where swelling has been confined to the face and lips, the condition has generally resolved without treatment, although antihistamines have been useful in relieving symptoms. Angioedema associated with laryngeal edema may be fatal. **Where there is involvement of the tongue, glottis, or larynx likely to cause airway obstruction, appropriate therapy, e.g., subcutaneous epinephrine solution 1:1000 (0.3 mL to 0.5 mL) and/or measures necessary to ensure a patent airway, should be promptly provided.** (See ADVERSE REACTIONS.)

Hypotension: Excessive hypotension is rare in uncomplicated hypertensive patients treated with VASOTEC alone. Patients with heart failure given VASOTEC commonly have some reduction in blood pressure, especially with the first dose, but discontinuation of therapy for continuing symptomatic hypotension usually is not necessary when dosing instructions are followed; caution should be observed when initiating therapy (See DOSAGE AND ADMINISTRATION). Patients at risk for excessive hypotension, sometimes associated with oliguria and/or progressive azotemia and rarely with acute renal failure and/or death, include those with the following conditions or characteristics: heart failure, hyponatremia, high-dose diuretic therapy, recent intensive diuresis or increase in diuretic dose, renal dialysis, or severe volume and/or salt depletion of any etiology. It may be advisable to eliminate the diuretic (except in patients with heart failure), reduce the diuretic dose, or increase salt intake cautiously before initiating therapy with VASOTEC in patients at risk for excessive hypotension who are able to tolerate such adjustments. (See PRECAUTIONS, Drug Interactions and ADVERSE REACTIONS.) In patients at risk for excessive hypotension, therapy should be started under very close medical supervision and such patients should be followed closely for the first two weeks of treatment and whenever the dose of enalapril and/or diuretic is increased. Similar considerations may apply to patients with ischemic heart disease or cardiovascular disease in whom an excessive fall in blood pressure could result in a myocardial infarction or cerebrovascular accident.

If excessive hypotension occurs, the patient should be placed in the supine position and, if necessary, receive an intravenous infusion of normal saline. A transient hypotensive response is not a contraindication to further doses of VASOTEC, which usually can be given without difficulty once the blood pressure has stabilized. If symptomatic hypotension develops, a dose reduction or discontinuation of VASOTEC or concomitant diuretic may be necessary.

Neutropenia/Agranulocytosis: Another ACE inhibitor, captopril, has been shown to cause agranulocytosis and bone marrow depression, rarely in uncomplicated patients but more frequently in patients with renal impairment, especially if they also have a collagen vascular disease. Available data from clinical trials of enalapril are insufficient to show that enalapril does not cause agranulocytosis at similar rates. Foreign marketing experience has revealed several cases of neutropenia or agranulocytosis in which a causal relationship to enalapril cannot be excluded. Periodic monitoring of white blood cell counts in patients with collagen vascular disease and renal disease should be considered.

Fetal/Neonatal Morbidity and Mortality: ACE inhibitors, including VASOTEC, can cause fetal and neonatal morbidity and mortality when administered to pregnant women.

Enalapril crosses the human placenta. When ACE inhibitors have been used during the second and third trimesters of pregnancy, there have been reports of hypotension, renal failure, skull hypoplasia, and/or death in the newborn. Oligohydramnios has also been reported, presumably representing decreased renal function in the fetus; limb contractures, craniofacial deformities, hypoplastic lung development and intrauterine growth retardation have been reported in association with oligohydramnios. Patients who do require ACE inhibitors during the second and third trimesters of pregnancy should be apprised of the potential hazards to the fetus, and frequent ultrasound examinations should be performed to look for oligohydramnios. If oligohydramnios is observed, VASOTEC should be discontinued unless it is considered life-saving for the mother.

Other potential risks to the fetus/neonate exposed to ACE inhibitors include: intrauterine growth retardation, prematurity, patent ductus arteriosus; fetal death has also been reported. It is not clear, however, whether these reported events are related to ACE inhibition or the underlying maternal disease. It is not known whether exposure limited to the first trimester can adversely affect fetal outcome.

Infants exposed *in utero* to ACE inhibitors should be closely observed for hypotension, oliguria, and hyperkalemia. If oliguria occurs, attention should be directed toward support of blood pressure and renal perfusion.

Enalapril has been removed from the neonatal circulation by peritoneal dialysis and theoretically may be removed by exchange transfusion, although there is no experience with the latter procedure.

There was no fetotoxicity or teratogenicity in rats treated with up to 200 mg/kg/day of enalapril (333 times the maximum human dose). Fetotoxicity, expressed as a decrease in average fetal weight, occurred in rats given 1200 mg/kg/day of enalapril, but did not occur when these animals were supplemented with saline. Enalapril was not teratogenic in rabbits. However, maternal and fetal toxicity occurred in some rabbits at doses of 1 mg/kg/day or more. Saline supplementation prevented the maternal and fetal toxicity seen at doses of 3 and 10 mg/kg/day but not at 30 mg/kg/day (50 times the maximum human dose).

If VASOTEC is used during pregnancy or if the patient becomes pregnant while taking VASOTEC, the patient should be apprised of the potential hazards to the fetus.

Precautions: General: Impaired Renal Function: As a consequence of inhibiting the renin-angiotensin-aldosterone system, changes in renal function may be anticipated in susceptible individuals. In patients with severe heart failure whose renal function may depend on the activity of the renin-angiotensin-aldosterone system, treatment with ACE inhibitors, including VASOTEC, may be associated with oliguria and/or progressive azotemia and rarely with acute renal failure and/or death.

In clinical studies in hypertensive patients with unilateral or bilateral renal artery stenosis, increases in blood urea nitrogen and serum creatinine were observed in 20% of patients. These increases were almost always reversible upon discontinuation of enalapril and/or diuretic therapy. In such patients, renal function should be monitored during the first few weeks of therapy.

Some patients with hypertension or heart failure with no apparent preexisting renal vascular disease have developed increases in blood urea and serum creatinine, usually minor and transient, especially when VASOTEC has been given concomitantly with a diuretic. This is more likely to occur in patients with preexisting renal impairment. Dosage reduction and/or discontinuation of the diuretic and/or VASOTEC may be required.

Evaluation of patients with hypertension or heart failure should always include assessment of renal function. (See DOSAGE AND ADMINISTRATION.)

Hyperkalemia: Elevated serum potassium (> 5.7 mEq/L) was observed in approximately 1% of hypertensive patients in clinical trials. In most cases these were isolated values which resolved despite continued therapy. Hyperkalemia was a cause of discontinuation of therapy in 0.28% of hypertensive patients. In clinical trials in heart failure, hyperkalemia was observed in 3.8% of patients, but was not a cause for discontinuation.

Risk factors for the development of hyperkalemia include renal insufficiency, diabetes mellitus, and the concomitant use of potassium-sparing diuretics, potassium supplements, and/or potassium-containing salt substitutes, which should be used cautiously, if at all, with VASOTEC. (See Drug Interactions.)

Cough: Cough has been reported with the use of ACE inhibitors. Characteristically the cough is nonproductive, persistent and resolves after discontinuation of therapy. ACE inhibitor-induced cough should be considered as part of the differential diagnosis of cough.

Surgery/Anesthesia: In patients undergoing major surgery or during anesthesia with agents that produce hypotension, enalapril may block angiotensin II formation secondary to compensatory renin release. If hypotension occurs and is considered to be due to this mechanism, it can be corrected by volume expansion.

Information for Patients: Angioedema: Angioedema, including laryngeal edema, may occur especially following the first dose of enalapril. Patients should be so advised and told to report immediately any signs or symptoms suggesting angioedema (swelling of face, extremities, eyes, lips, tongue, difficulty in swallowing or breathing) and to take no more drug until they have consulted with the prescribing physician.

Hypotension: Patients should be cautioned to report lightheadedness, especially during the first few days of therapy. If

actual syncope occurs, the patients should be told to discontinue the drug until they have consulted with the prescribing physician.

All patients should be cautioned that excessive perspiration and dehydration may lead to an excessive fall in blood pressure because of reduction in fluid volume. Other causes of volume depletion such as vomiting or diarrhea may also lead to a fall in blood pressure; patients should be advised to consult with the physician.

Hyperkalemia: Patients should be told not to use salt substitutes containing potassium without consulting their physician.

Neutropenia: Patients should be told to report promptly any indication of infection (e.g., sore throat, fever) which may be a sign of neutropenia.

NOTE: As with many other drugs, certain advice to patients being treated with enalapril is warranted. This information is intended to aid in the safe and effective use of this medication. It is not a disclosure of all possible adverse or intended effects.

Drug Interactions: Hypotension: Patients on Diuretic Therapy: Patients on diuretics and especially those in whom diuretic therapy was recently instituted may occasionally experience an excessive reduction of blood pressure after initiation of therapy with enalapril. The possibility of hypotensive effects with enalapril can be minimized by either discontinuing the diuretic or increasing the salt intake prior to initiation of treatment with enalapril. If it is necessary to continue the diuretic, provide close medical supervision after the initial dose for at least two hours and until blood pressure has stabilized to at least an additional hour (See WARNINGS and DOSAGE AND ADMINISTRATION.)

Agents Causing Renin Release: The antihypertensive effect of VASOTEC* (Enalapril Maleate, MSO) is augmented by agents that cause renin release (e.g., diuretics).

Other Cardiovascular Agents: VASOTEC has been used concomitantly with beta-adrenergic-blocking agents, methylglucoside nitrates, calcium-blocking agents, hydralazine, prazosin, and digoxin without evidence of clinically significant adverse interactions.

Agents Increasing Serum Potassium: VASOTEC attenuates potassium loss caused by thiazide-type diuretics. Potassium-sparing diuretics (e.g., spironolactone, triamterene, or amiloride), potassium supplements, or potassium-containing salt substitutes may lead to significant increases in serum potassium. Therefore, if concomitant use of these agents is indicated because of demonstrated hypokalemia, they should be used with caution and with frequent monitoring of serum potassium. Potassium-sparing agents should generally not be used in patients with heart failure receiving VASOTEC.

Lithium: Lithium toxicity has been reported in patients receiving lithium concomitantly with drugs which cause elimination of sodium, including ACE inhibitors. A few cases of lithium toxicity have been reported in patients receiving concomitant VASOTEC and lithium and were reversible upon discontinuation of both drugs. It is recommended that serum lithium levels be monitored frequently if enalapril is administered concomitantly with lithium.

Pregnancy: Pregnancy Category D. See WARNINGS, Fetal/Neonatal Morbidity and Mortality.

Nursing Mothers: Enalapril and enalaprilat are detected in human milk in trace amounts. Caution should be exercised when VASOTEC is given to a nursing mother.

Pediatric Use: Safety and effectiveness in children have not been established.

Adverse Reactions: VASOTEC has been evaluated for safety in more than 10,000 patients, including over 1000 patients treated for one year or more. VASOTEC has been found to be generally well tolerated in controlled clinical trials involving 2987 patients.

HYPERTENSION: The most frequent clinical adverse experiences in controlled trials were: headache (5.2%), dizziness (4.3%), and fatigue (3%).

Other adverse experiences occurring in greater than 1% of patients treated with VASOTEC in controlled clinical trials were: diarrhea (1.4%), nausea (1.4%), rash (1.4%), cough (1.3%), orthostatic effects (1.2%), and asthenia (1.1%).

HEART FAILURE: The most frequent clinical adverse experiences in both controlled and uncontrolled trials were: dizziness (7.9%), hypotension (6.7%), orthostatic effects (2.2%), syncope (2.2%), cough (2.2%), chest pain (2.1%), and diarrhea (2.1%).

Other adverse experiences occurring in greater than 1% of patients treated with VASOTEC in both controlled and uncontrolled clinical trials were: fatigue (1.8%), headache (1.8%), abdominal pain (1.6%), asthenia (1.6%), orthostatic hypotension (1.6%), vertigo (1.6%), angina pectoris (1.5%), nausea (1.3%), vomiting (1.3%), bronchitis (1.3%), dyspnea (1.3%), urinary tract infection (1.3%), rash (1.3%), and myocardial infarction (1.2%).

Other serious clinical adverse experiences occurring since the drug was marketed or adverse experiences occurring in 0.5% to 1% of patients with hypertension or heart failure in clinical trials in order of decreasing severity within each category:

Cardiovascular: Cardiac arrest; myocardial infarction or cerebrovascular accident, possibly secondary to excessive hypotension in high-risk patients (see WARNINGS, Hypotension); pulmonary embolism and infarction; pulmonary edema; rhythm disturbances including atrial tachycardia and bradycardia; atrial fibrillation; palpitation.

Digestive: Ileus, pancreatitis, hepatitis (hepatocellular [proven on rechallenge] or cholestatic jaundice), melena, anorexia, dyspepsia, constipation, glossitis, stomatitis, dry mouth.

Musculoskeletal: Muscle cramps.

Nervous/Psychiatric: Depression, confusion, ataxia, somnolence, insomnia, nervousness, paresthesia.

Respiratory: Bronchospasm, rhinorrhea, sore throat and hoarseness, asthma, upper respiratory infection.

Skin: Exfoliative dermatitis, toxic epidermal necrolysis, Stevens-Johnson syndrome, herpes zoster, erythema multiforme, urticaria, pruritus, alopecia, flushing, diaphoresis.

Special Senses: Blurred vision, taste alteration, anosmia, tinnitus, conjunctivitis, dry eyes, tearing.

Urogenital: Renal failure, oliguria, renal dysfunction (see PRECAUTIONS and DOSAGE AND ADMINISTRATION), impotence.

A symptom complex has been reported which may include a positive ANA, an elevated erythrocyte sedimentation rate, arthralgia/arthritis, myalgia, fever, serositis, vasculitis, leukocytosis, eosinophilia, photosensitivity, rash, and other dermatologic manifestations.

Angioedema: Angioedema has been reported in patients receiving VASOTEC (0.2%). Angioedema associated with laryngeal edema may be fatal. If angioedema of the face, extremities, lips, tongue, glottis, and/or larynx occurs, treatment with VASOTEC should be discontinued and appropriate therapy instituted immediately. (See WARNINGS.)

Hypotension: In the hypertensive patients, hypotension occurred in 0.9% and syncope occurred in 0.5% of patients following the initial dose or during extended therapy. Hypotension or syncope was a cause for discontinuation of therapy in 0.1% of hypertensive patients. In heart failure patients, hypotension occurred in 6.7% and syncope occurred in 2.2% of patients. Hypotension or syncope was a cause for discontinuation of therapy in 1.9% of patients with heart failure. (See WARNINGS.)

Fetal/Neonatal Morbidity and Mortality: In infants exposed *in utero* to ACE inhibitors the following adverse experiences have been reported: Fetal and neonatal death, renal failure, hypoplastic lung development, hypotension, hyperkalemia, skull hypoplasia, limb contractures, craniofacial deformities, intrauterine growth retardation, prematurity and patent ductus arteriosus. (See WARNINGS, Fetal/Neonatal Morbidity and Mortality.)

Clinical Laboratory Test Findings: Serum Electrolytes: Hyperkalemia (see PRECAUTIONS), hyponatremia.

Creatinine, Blood Urea Nitrogen: In controlled clinical trials, minor increases in blood urea nitrogen and serum creatinine, reversible upon discontinuation of therapy, were observed in about 0.2% of patients with essential hypertension treated with VASOTEC alone. Increases are more likely to occur in patients receiving concomitant diuretics or in patients with renal artery stenosis. (See PRECAUTIONS.) In patients with heart failure who were also receiving diuretics with or without digitalis, increases in blood urea nitrogen or serum creatinine, usually reversible upon discontinuation of VASOTEC and/or concomitant diuretic therapy, were observed in about 11% of patients. Increases in blood urea nitrogen or creatinine were a cause for discontinuation in 1.2% of patients.

Hemoglobin and Hematocrit: Small decreases in hemoglobin and hematocrit (mean decreases of approximately 0.3 and 1.0 vol%, respectively) occur frequently in either hypertension or heart failure patients treated with VASOTEC but rarely of clinical importance unless another cause of anemia coexists. In clinical trials, less than 0.1% of patients discontinued therapy due to anemia.

Other (Causal Relationship Unknown): In marketing experience, rare cases of neutropenia, thrombocytopenia, and bone marrow depression have been reported. A few cases of hemolysis have been reported in patients with G6PD deficiency.

Liver Function Tests: Elevations of liver enzymes and/or serum bilirubin have occurred.

For more detailed information, consult your MSD Representative or see Prescribing Information, Merck Sharp & Dohme, Division of Merck & Co., INC., West Point, PA 19486.

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High Energy Radiation: High Tech Warfare Against Cancer

Thomas Jack Tidwell, M.D.

MICROWAVE ELECTRONICS, laser beams, particle acceleration, wave guides, electron guns, bending magnets, klystrons, magnetrons, computer graphics terminals, x-ray data digitizers, CT and MRI interfacing, photon beams, and electron beams might sound like "Star Wars" weaponry, but all these terms refer to technical tools used daily by the radiotherapist and his or her team of specialists, the radiation physicist, the dosimetrist, the radiation technologist, and the electronics engineer.

Largely because of the requirement to understand these powerful and specifically useful electronic tools and the accompanying disciplines of radiobiology and radiation physics, the field of Radiotherapy, or Radiation Oncology, has become a specialty apart from Diagnostic Radiology. Today's radiotherapists undergo 4 or 5 years of postgraduate medical training in their preparation for serving as the interface between a challenging and changing "Star Wars" technology on the one hand and an emotionally taxing clinical subspecialty on the other.

One of the most common tools used today is the linear accelerator, abbreviated as LINAC. It produces x-rays and works basically by accelerating a precisely controlled stream of electrons to nearly light speed and ramming them into a metal target. This interaction produces a beam of x-rays 50 to 200 times the energy of ordinary diag-

‘High energy equipment causes fewer complications at curative dose levels in deep-seated lesions, so the radiotherapist seeking cure is less likely to be penalized in court for his/her attempt.’

nostic x-rays. The geometry of the energy deposition in the body measured in centigray, cGy, (or rad) is carefully planned prior to treatment by aiming radiation beams at different angles or rotationally on a computer screen at a preconstructed model of the patient's tumor. The patient is then set up on a specially constructed rotational diagnostic x-ray machine called a simulator which helps correlate actual anatomy to the plan. Finally, the patient is subjected to the radiation treatment beam, and other treatment films are made to verify its accuracy.

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This article was prepared at the request of the Georgia Division of the American Cancer Society. Those wishing to contribute articles to this Section should contact Dr. Tom Phillips, *Journal* CANCER Editor, 25 Prescott St., Atlanta, GA 30365.

Evolution of Equipment

For 30 or 40 years, before high energy machines came into the mainstream, low energy equipment was used to treat everything requiring external beam radiation. From the beginning, however, it has been a struggle, particularly in the treatment of deeper seated lesions, to avoid radiation toxicity both short and long term. In the pursuit of lowering the side effects and complications of treatment, technology has progressed to the present era of multiple energy capability.

Lower energy machines are still useful in treating tumors needing less penetration, such as in head and neck and extremity lesions, and in palliating lesions not requiring very high doses.

High Energy Advantages

Though more expensive, the modern high energy linear accelerator has become very popular with radiotherapists because of the fact that *its higher energy capability produces a sharper photon beam which has better penetration and greater skin-sparing capability*. In using higher energy beams in deep-seated lesions, less dose is required to be delivered to areas peripheral to the tumor.¹ These areas need to be protected from radiation to whatever degree is possible so complications can be avoided. Radiation doses to bladder, bowel, and rectum need to be kept to a critical minimum in treatment of gynec-

logic and prostate cancers. In the treatment of lung cancer, avoidance of dosing the spinal cord, the esophagus, and large cardiac and lung volumes can be critical.²

Old Dilemma, New Solution

Because of the ever present potential damage to surrounding tissue, the radiation oncologist is constantly faced with potential treatment complications, which unfortunately occur in direct proportion to the dose delivered to patient. On the other hand, the therapist also knows that being as little as 500 rads short of the 5000 to 7500 rads generally required to eliminate a tumor (depending on tumor volume and histology) can make a dramatic difference in cure rates. The radiotherapist must daily wrestle with the following very tough technical, legal, medical, and ethical question, which has no agreed-upon optimum answer:

"Should I risk morbidity and thus negativity from the referring physician and the patient by giving a higher dose, or should I sacrifice a higher cure rate by lowering the dose?"

An ironic truth well known to veteran radiotherapists is that patients in whom treatment fails take medico-legal recourse less often than patients who live to have complications. In other words, the radiotherapist is penalized for giving curative treatment. The radiotherapist truly is in a gap between a "rock and a hard place."

To the rescue can be the advantages of the sharpness, better penetration, and the lower integral dose of the high energy beam. The "comfort gap" in the dilemma is thus extended, and the therapist can either treat more aggressively for a higher cure rate, or he/she can relax more secure that he/she will incur less morbidity, or both.

Electron Beam Capabilities

The high energy accelerator of-

‘By today’s standards in radiotherapy, deep-seated cancers such as prostate, uterus, rectum, cervix, or lung should be treated on high energy accelerators producing a minimum of 10 MV x-rays.’

fers more than just the advantage of better sharpness and penetration. The energy of the accelerated electrons in the high energy LINAC are themselves powerful enough to treat a patient. In the high energy machine, the electron beam, instead of being directed to a metal target, can be passed through a scattering foil and then uniformly out onto the patient. Being a shower of particles, the electron beam is almost totally absorbed by the first few centimeters of tissue. This allows for treatment of shallow-depth lesions without dosing underlying tissues. Thus, for instance, one can avoid dosing the lung when only the chest wall is necessary, and one can avoid the spinal cord when treating posterior neck nodes.

Is Georgia Keeping Up?

Since our most recent textbook teachings³⁻⁹ and practices in radiotherapy¹⁰ suggest that a preponderance of patients today will benefit from access to treatment on a high energy machine, referring physicians are advised to recognize their responsibility to have their patients treated in a facility that, on-site, provides the full range of energies required by today's standards.

If a standard in radiation therapy is important, that direction is clearly set by the nation's top cancer cen-

ters as defined by the latest annual physician poll published by *U.S. News and World Report*. A survey of these well respected facilities¹¹ has shown that 100 percent of them have multi-energy capability (i.e. both high and low energy).

From a recent analysis of radiation facilities in Georgia, it is notable that already there are up-to-date facilities offering both high and low energy equipment in-house in 13 cities outside of the Atlanta area. In the Atlanta area itself, eight of the 10 hospitals with radiation therapy offer both high and low energy equipment, the only two exceptions will both also soon have the new equipment.

Conclusion

By and large, Georgia is keeping up with the new high energy technology in radiation therapy. Georgia physicians and their patients can comfortably be aware that high energy machines, which offer distinct improvements in both morbidity and cure rates, if sought, generally can be found to be available throughout the state.

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10. Including M.D. Anderson Cancer Center, Massachusetts General, Mayo Clinic, Memorial Sloan-Kettering, National Institutes of Health, Stanford, UCLA, UCSF, Dana-Farber, Barnes, Duke, Johns Hopkins, Univ. of Penn., Univ. of Washington, Univ. of Chicago, UMC Phoenix. Also Princess Margaret, Toronto, McGill-Quebec.

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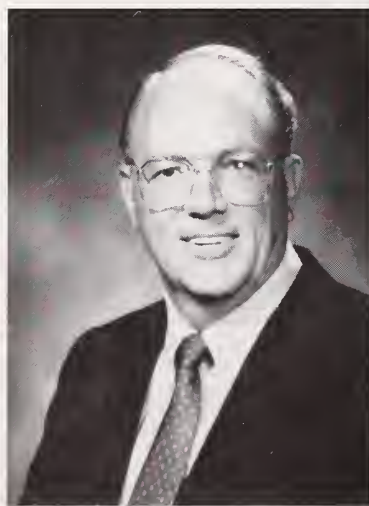
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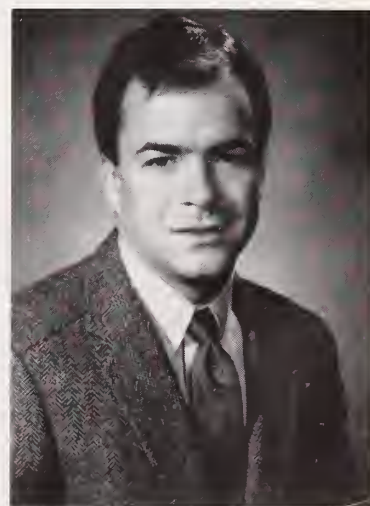
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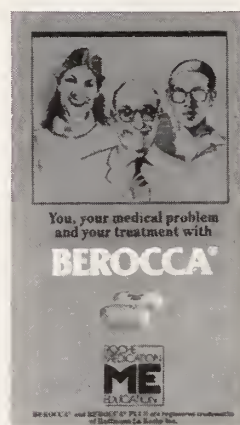


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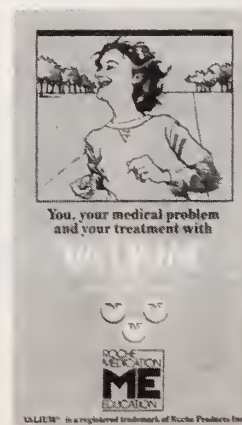
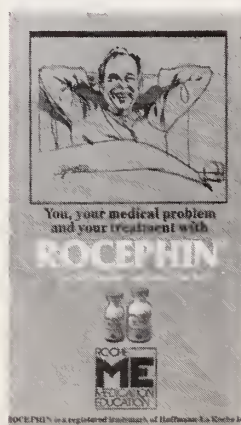
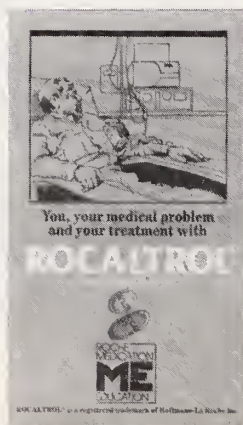
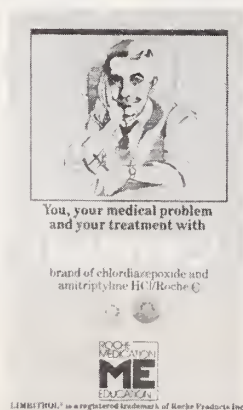
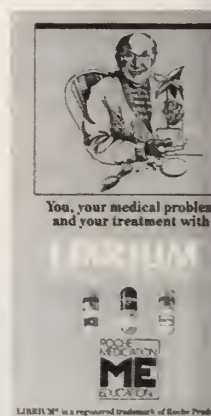
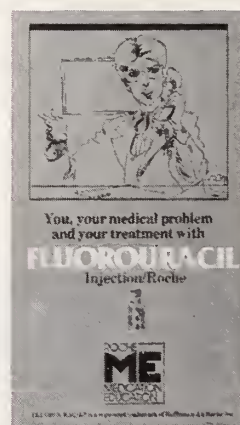
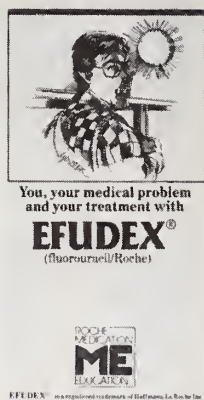
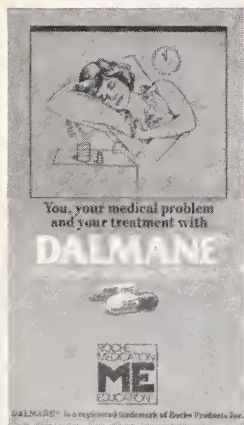


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MANUSCRIPTS — Articles are accepted for publication on the condition that they are contributed solely in this *Journal*. Manuscripts should be typewritten, double-spaced and the original and one copy should be submitted. Receipt of manuscripts will be acknowledged.

STYLE — In general, articles can be 8-10 pages in length. For exceptional circumstances, contact the Managing Editor. Footnotes, bibliographies, and legends should be typed on separate sheets, double-spaced. Bibliographies should conform to the following style: name of author (with initials), title of article, name of periodical, date, volume (number, if available), and pages.

Sorter NA, Wasserman SI, Austen KF. Cold urticaria release into circulation of histamine and eosinophil chemotactic factor of anaphylaxis during cold challenge. *N Engl J Med* 1976;294:687-90.

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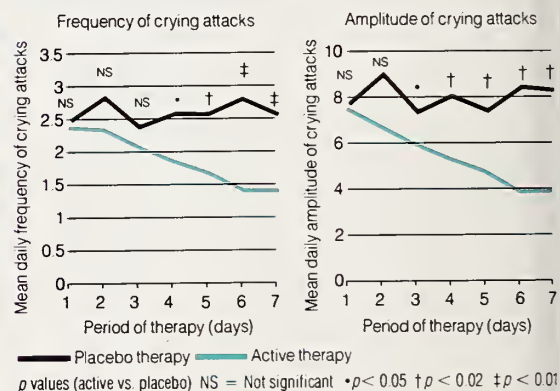
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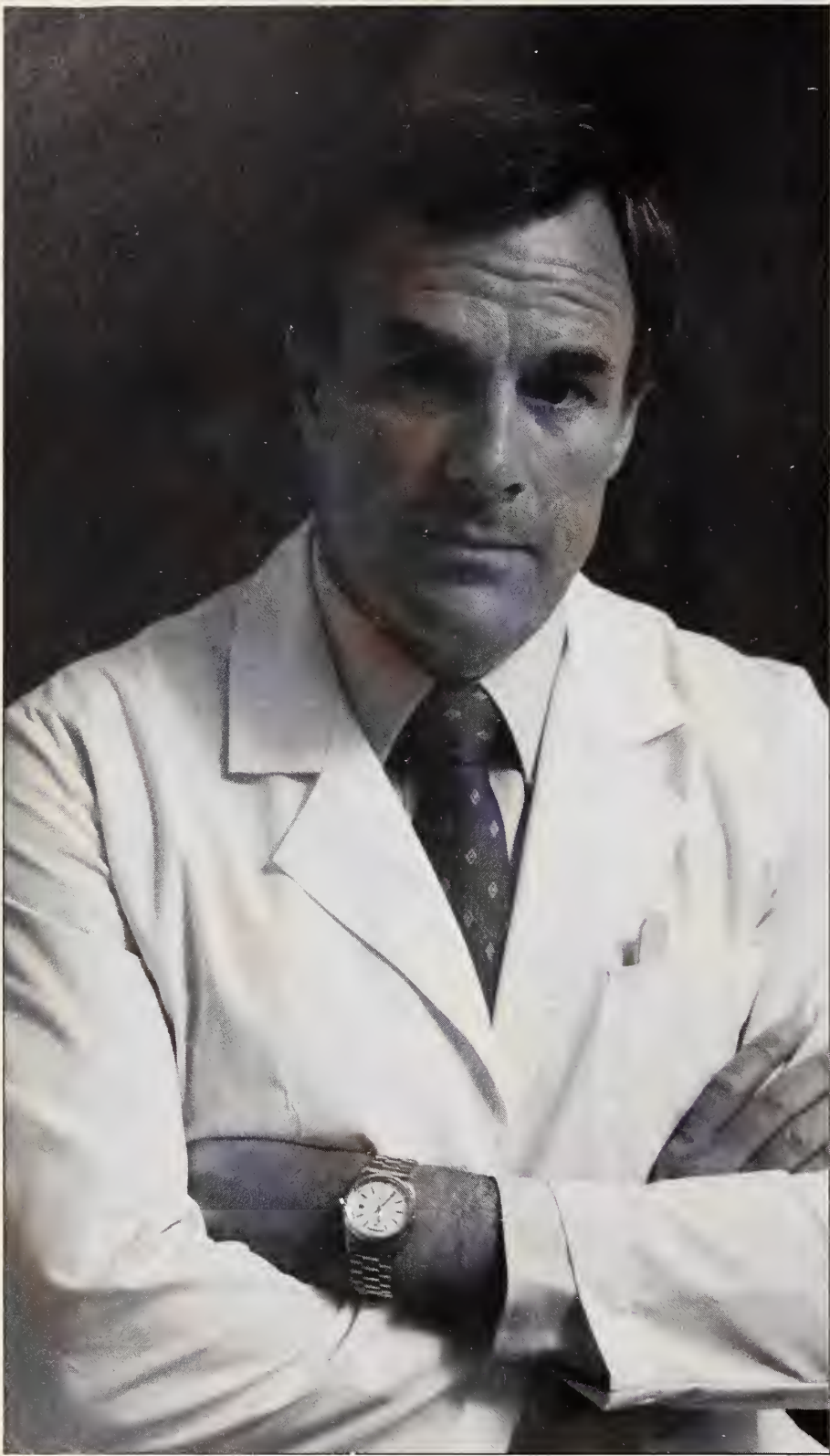
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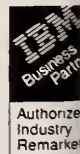
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THE COVER

Transforming bleak hospital corridors walls into colorful spaces and involving patients in that process is the mission of the Foundation for Hospital Art. Shown here is some art in the corridor between Shepherd Spinal Center and Piedmont Hospital in Atlanta. Photograph by Chuck Rogers, Atlanta. Design by Richardson Design, Atlanta.

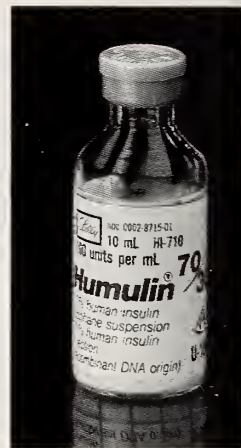


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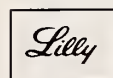
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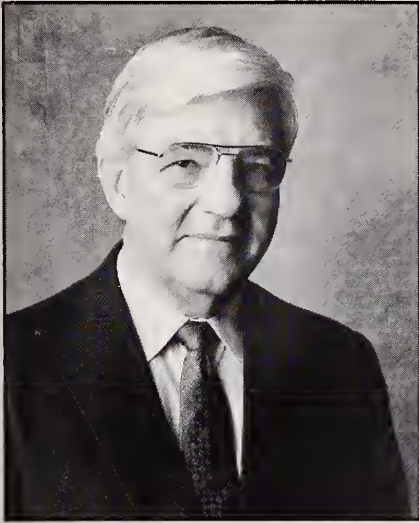
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Georgia on My Mind

*The ships are bearing many
To the land of far-away,
But here the bright sun found me
And it is here I want to stay.
Oh, the joys may be unmeasured
In those lands beyond the sea
But the old red hills of Georgia
They are good enough for me.*

HARRY STILLWELL EDWARDS

IF A GENIE popped out of a bottle in my vicinity and, according to legend, gave me the customary three wishes, I would have to pass him on down the line to the next lucky soul for I can ask nothing more from life than what life has already given me. I have truly been blessed to have the wife I have, the family I have, the friends I have — to have been allowed to be a citizen of the United States of America and, more importantly, to be a citizen of the great State of Georgia. I have been allowed to attend such institutions as the University of Georgia and the Medical College of Georgia, and allowed to practice medicine and, most recently, have been elected and allowed to serve as President of the Medical Association of Georgia. These are about as many blessings as one person can expect in a lifetime.

It seems only yesterday that my Presidency began. Yet, here I am writing my last editorial for the *Journal*. It has been a great and ex-

citing time in my life. Jan and I have truly traveled from one end of this state to the other and have fallen in love again with this wonderful place that we are allowed to call home. We have truly traveled from Rabun Gap to Tybee Light, from Chickamauga to Lake Seminole and all points in between. This is a marvelous state. If there is one thing nicer than the geography of our state, it is the people. You have welcomed us into your homes and into your communities. We have been winned and dined, have renewed many old acquaintances and made hundreds of new friends. It has been our pleasure to see how many of you work and play and, in most instances, deliver the finest health care possible throughout the wide environs of our great state.

As Georgia becomes more and more urbanized, the sad part is that many of our new physicians who come and live in these urban areas never get out and explore this great state and find what lies beyond the metropolitan areas. Now, don't let me, for a minute, take away anything from the fine restaurants, cultural and sporting events that are part of living in Atlanta. The beautiful state of Chatham is one of the best kept secrets in the whole United States. If there is anything prettier

than Savannah in the Springtime, I have never seen it. Macon, Columbus, Albany, Augusta, all have their special charms, particularly the old parts of the cities that are being meticulously and lovingly preserved and cared for by their hometown boosters.

If you have never experienced the other Georgia, the rural Georgia, you have truly missed half of the pleasure of living in this great state. If you have never heard the song of the Chattahoochee as it runs "out of the hills of Habersham, down the valleys of Hall, hurrying to reach the plain, run the rapid and leap the fall," then you still have a lot of living to do.

If you have never sat under the oak on the marge of the marshes of Glynn and reminisced with Sidney Lanier as he observed, "As the marsh hen secretly builds on the watery sod, behold, I will build me a nest on the greatness of God. I will fly in the greatness of God as a marsh hen flies midst the freedom that fills the space 'twixt the marsh and the skies. By so many roots as the marsh grass sends in the sod, I will hardly lay me a hold on the greatness of God, for like to the greatness of God, is the greatness within, the range of the marshes, the liberal marshes of Glynn." If you

haven't truly let the marshes seep into your soul, you have still got a lot of living to do.

If you have never followed a couple of good bird dogs through the Georgia pines and have your heart stop as they came to a point and then have that very same heart fly up into your throat as a covey of bobwhite quail flush in front of you, you have still got a lot of living to do.

If you have never climbed the big green mountain on the south side of Lake Rabun and watched the sunset over the twisting Tallulah River as it comes down out of the mountains headed toward the sea, you have still got a lot of living to do.

If you have not walked the battlefield at Chickamauga, down through the North Georgia hills until you reach Kennesaw Mountain and studied that great conflict from the perspective of the land unchanged even at this point, 130 years later, then you still have got some of your most exciting moments ahead of you.

If you have never heard the unearthly silence that permeates the greens of Augusta National as the champions stoop to putt —

If you have never heard the roar of 85,000 of your closest friends on a Dawg Day afternoon in good old Athens town —

If you have never sat down at the Dillard House and packed in "all you can eat," then my heart truly goes out to you, my friends, for you have not yet truly lived.

It is easy to see that I love this state and I love the people of this state. Most importantly, after this year, my heart has been gently warmed by the support and love that Georgia physicians have shown Jan and me as we were privileged to serve you and through you, the people of the State of Georgia.

As John Donne has so aptly stated, "No man is an island entire of itself. Every man is a piece of the continent, a part of the main. . . . Any man's death (troubles) diminishes me, because I am involved in mankind and, therefore, never send to know for whom the bell tolls. It tolls for thee." In my own personal sense, it tolls for *me*. No Georgian goes hungry that I don't feel the hunger pangs. No Georgian goes without appropriate medical care that I don't suffer with him. No

Georgian has his young life snuffed out by gang war in Techwood Homes that my soul doesn't cry — "What a waste! What a waste!" No Georgian dies unnecessarily due to violence, disease or neglect, that I am not diminished. Georgia is my home, Georgia is my love. I sing when she sings. I cry when she cries.

*"For the old red hills of Georgia
I shall lay me down someday.
And these friends of youth and
manhood,
They won't be far away.
I shall wait the day's new
dawning
Safe underneath their sod,
And the hallowed feet of women
Who brought me unto God.
Oh, the ships are bearing many
Unto lands beyond the sea,
But the old red hills of Georgia
They are good enough for me."*

EDWARDS



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PERSONALS

DeKalb County Medical Society

Decatur neurosurgeon **Roy W. Vandiver, M.D.**, was recently appointed to the executive Committee for DeKalb Medical Center's newly formed Foundation. Dr. Vandiver will chair the Special Prospects Committee. The Foundation is a volunteer organization created to strengthen the link between the Medical Center and the community through educational initiatives and health-oriented programs, and to secure contributions to support the Medical Center's current and future capital needs.

Georgia Medical Society

Nicholas V. Costrini, M.D., Ph.D. of Savannah, has recently been elected President of the Georgia Gastroenterologic and Endoscopic Society. Dr. Costrini was also honored as the recipient of the Clinical Scholars Award by the American Gastroenterologic Association. The award provides travel and general support for Dr. Costrini and to Johns Hopkins University School of Medicine for his studies of pediatric nutrition and gastrointestinal disorders afflicting children with profound neurologic disorders.

Fremont P. Wirth, M.D., a neurosurgeon from Savannah, has been appointed to the Board of Directors of the THINK FIRST Foundation. The Board will oversee the operation expansion, and funding of the National Head and Spinal Cord Injury Prevention Program, THINK FIRST. The THINK FIRST Foundation is a

charitable organization which was formed as a joint effort of the American Association of Neurological Surgeons and the Congress of Neurological Surgeons.

Medical Association of Atlanta

William C. Collins, M.D., of Atlanta, has been elected to a 3-year term as President of the Orthopaedic Research and Education Foundation. The Foundation was formed in 1955 by members of the specialty to support research designed to expand the scientific base of orthopaedic practice.

H.L. Lassiter, Jr., M.D., of Arington, has recently been certified as a Diplomate of the American Board of Family Practice.

W. Jefferson Pendergrast, Jr., M.D., has been elected President of the Georgia Society of Plastic Surgeons. Serving with him in 1991 are E. Anthony Mussara, II, M.D., Vice President; Philip Beegle, Jr., M.D., Secretary; and Richard H. Wilson, M.D., Treasurer.

DEATHS

William J. Fedack, M.D., of Jonesboro, died February 19 at the age of 73. Dr. Fedack graduated from Hahnemann Medical School. He was team physician for Woodward Academy in College Park, and had a general practice in Jonesboro for the last 30 years.

Nathaniel A. Lopey, M.D., of Avondale Estates, a DeKalb Medical Center staff physician, died of a heart attack last February. He was 61. For the last 6 years he had been medical director of the DeKalb County Jail.

Dr. Lopey was a graduate of Dalhousie College in Nova, had a master's degree from the University of

Michigan, and earned his medical degree from the University of Michigan. He was a fellow of the American College of Physicians.

Calvin B. Stewart, M.D., a retired Atlanta physician, died of pneumonia last February at the age 92.

A graduate of the University of South Carolina and the Medical College of South Carolina, Dr. Stewart was the head of the radium and X-ray department at the Steiner Cancer Clinic at Grady Hospital. He retired from private practice as a surgeon and oncology specialist in 1974 after 50 years in the Atlanta medical community.

OTHER NEWS

Otolaryngologists Aim to "Snuff Out Snuff"

Georgia physicians who specialize in Otolaryngology-Head and Neck Surgery and treat oral cancer, along with the other national members of the American Academy of Otolaryngology-Head and Neck Surgery, are making it their goal in 1991 to "Snuff Out Snuff," expressing concern that consumption of moist snuff, the deadliest type of smokeless tobacco, jumped 8% in the past year. Snuff is the only product among all types of tobacco in which consumption is on the rise in the United States, making it the "final frontier" for anti-tobacco educational efforts.

For the third consecutive year, the American Academy of Otolaryngology-Head and Neck Surgery (the "Academy") representing 8,500 physicians, is sponsoring a nationwide campaign urging young people to avoid all smokeless tobacco. Dr. Nancy R. Griner, Governor to the Board of Governors from the Geor-

gia chapter of the Academy, states that she has found that educational efforts need to start early — the prime target group is 8-10-year-old boys, whose experimentation often leads to addiction in the teen years. As consumption of cigarettes has dropped for the sixth straight year, physicians are concerned that higher snuff consumption means teenage boys are switching from cigarettes to snuff. There was a fifteen-fold increase in snuff use by 17-19 year old males in 1986, and the new consumption data suggests this trend is continuing.

According to Dr. William E. Silver, Immediate Past Vice President of the Academy, "Whenever a 'No Smoking' sign goes up, use of snuff probably goes up as well. Snuff is an easy product to consume where other tobacco use is prohibited. It can be more habit-forming than smoking, since it contains a higher concentration of nicotine. Health experts have concluded it has even deadlier potential than chewing tobacco."

While an estimated twelve million Americans use smokeless tobacco, the doctors are most concerned about the three million who are mostly teenage boys in states with the most prevalent use of smokeless tobacco. The Academy, through its local members around the country, is asking young people to commemorate the anniversary of the highly publicized death of Sean Marsee by taking a pledge to quit snuff during "Through With Chew" week. During that week, Georgia doctors will visit local schools, speak before groups, and conduct publicity programs in communities throughout the state. They will remind young people that Marsee was a promising, healthy athlete before his death at age 19 in 1984 from cancer of the mouth. In the last hours of his life, his pleas to young people was "don't dip snuff."

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Uncompensated Care Strains Public Hospitals

The cost of providing uncompensated care to growing numbers of uninsured people, AIDS patients, drug abusers, and victims of urban violence is tearing the "safety nets" of most public hospitals, according to the National Association of Public Hospitals. (NAPH).

The NAPH stated in a recent report that urban hospitals that serve as safety nets for indigent patients are deteriorating financially.

The report questioned whether these hospitals could continue to offer services or even to survive without an infusion of up to \$2 billion annually in federal funds. Among the findings in the survey of 100 NAPH hospitals in 57 cities (figures for 1988):

- Sixty-three percent of NAPH hospitals had negative operating margins; the average was \$9.4 million.
 - Hospitals reported an average of \$76.9 million in bad debt, charity care and allowances, representing 42 percent of charges in 1988, compared with 32 percent in 1985.
 - Patients with no source of payment accounted for 30 percent of inpatient days and 52 percent of outpatient visits.
 - Occupancy rates at some hospitals exceed 80 percent, and some facilities care for patients in corridors because of a lack of available beds.
 - Hospitals reported that an average of 18,649 emergency department visits were drug-related, accounting for nearly 30 percent of all emergency visits.
- NAPH President Larry Gage said the nation's public hospitals provide the bulk of uncompensated care and such services as trauma and burn care in this country.

Health Benefits Costs Surging

Recently released data on the surging costs of medical benefits indicate that business' cost-reduction strategies are not working and that new approaches are needed.

The average annual cost of employer-sponsored medical plans in 1990 was \$3,161 per employee, according to the findings of a nationwide survey of 1,955 employers conducted by A. Foster Higgins & Co. Inc. in New York.

That total was 21.6 percent higher than the average cost of benefits in 1989 and 46.3 percent higher than average costs in 1988.

The survey also found that, although most of the firms offered their employees the opportunity to join a managed care plan, only one-third of their employees chose to do so.

The data support the view of officials of the Midwest Business Group on Health that managed care's ability to help businesses to hold down benefits' costs has been limited.

Therefore, firms need to build partnerships with their workers and with providers so that money spent on health care is not wasted on competition between HMOs and preferred provider organizations, according to Midwest Business Group.

Nearly one-half of the survey respondents said increased cost sharing with employees had a significant or moderate impact on their ability to contain health benefits costs. But limiting mental health and substance abuse benefits had only limited success in holding down costs, the survey found. And 49 percent of the firms reported that utilization review programs for traditional health plans had little or no effect.

Hospitals' Net Patient Margin Drops

Growth in hospitals' net patient revenues failed to keep pace with rising expenses during the first nine months of last year, according to the American Hospital Association.

Hospitals' total expenses jumped 11.4 percent during the period, according to "Economic Trends," a quarterly report based on the AHA's National Hospital Panel Survey. That compares with a 10 percent increase during the same period of 1989.

Meanwhile, total net patient revenues grew 11 percent during the first three quarters of 1990, compared with a 10.4 percent increase for the same period a year earlier. Outpatient revenues, paced by a 6 percent increase in outpatient visits, skyrocketed 18.1 percent, nearly twice the rate of growth for inpatient revenues.

While these trends left hospitals' net patient margin at zero, their total net margin fell to 4.9 percent for the period from 5.3 percent a year earlier.

On a positive note, hospital admissions rose 0.1 percent during the first nine months of 1990, although admissions dropped 0.4 percent during the third quarter compared with the year earlier level.

Credentialing, Peer Review Are Top Concerns

Credentialing, internal peer review, and disputes between the medical staff and the administration are the top three concerns of physician executives and chiefs of staff at hospitals, new survey data show.

As well as sharing similar views on problems, the groups rated each other highly, according to the survey conducted by the American College of Physician Executives (ACPE).

Physician executives gave hospital chiefs of staff a performance rating of 3.9 on a five-point scale; chiefs of staff gave physician executives a 4.1, indicating that medical chiefs have accepted physician executives.

Patient Satisfaction Rests on Nursing Care

Hospital patients' satisfaction is more closely linked to the caring behavior of the hospital staff than it is to the quality and quantity of hospital amenities, according to a survey by Press, Ganey Associates Inc. of South Bend, Ind.

The interpersonal skills of staff members — particularly nurses — top the list of factors influencing a patient's likelihood of recommending the facility. The study was based on nearly 115,000 surveys of patients in 188 hospitals nationwide.

Concern for privacy, nurse attentiveness, staff cheerfulness, and the staff's sensitivity to the inconvenience caused by hospitalization ranked higher in the surveys than did technical issues in affecting patients' assessment of their overall hospital experience.

QUOTES

The word May is a perfumed word. It is an illuminated initial. It means youth, love, song, and all that is beautiful in life.

H.W. LONGFELLOW: *Journal*, May 1, 1861

Love is very timid when 'tis new.

BYRON: *Don Juan*, I, 1819

In a country and government like ours, eloquence is a powerful instrument, well worthy of the special pursuit of our youth.

THOMAS JEFFERSON: *Letter to G.W. Summers*, 1822

*In all the branches full-fledged
May did sing,
Caught the light-flitting winds in
flowery mesh,
And poured its spreading smile
o'er everything.*

ALFRED AUSTIN: *The Human Tragedy*, IV, 1862

*If you are sick in May, you'll be
well the rest of the year.*

FRENCH PROVERB

*Maxims are to the intellect what
laws are to actions; they do not
enlighten, but they guide and
direct, and, although themselves
blind, are protective.*

JOSEPH JOUBERT: *Pensées*, 1864

*It was a lover, and his lass,
With a hey, and a ho, and a hey
nonino,
That o'er the green cornfield did
pass,
In Springtime, the only pretty ring
time,*

*When birds do sing, hey ding a
ding, ding;*

Sweet lovers love the Spring.

SHAKESPEARE: *As You Like It*, V, c. 1600

*From all the blasts of Heaven
thou hast descended:*

*Yes, like a spirit, like a thought,
which makes*

*Unwonted tears throng to the
horny eyes,*

*And beatings haunt the desolated
heart,*

*Which should have learnt repose:
thou has descended*

*Cradled in tempests; thou dost
wake, O Spring!*

P.B. SHELLEY: *Prometheus Unbound*, II 1820

*Give sorrow words; the grief that
does not speak*

*Whispers the o'er-fraught heart
and bids it break.*

SHAKESPEARE: *Macbeth*, IV, c. 1605

*There is no pillow so soft as a
clear conscience.*

FRENCH PROVERB

*We cannot dedicate — we cannot
consecrate — we cannot hallow
— this ground. The brave men,
living and dead, who struggled
here have consecrated it far
above our poor power to add or
detract. The world will little note,
nor long remember, what we say
here, but it can never forget what
they did here.*

ABRAHAM LINCOLN: *Gettysburg Address*, Nov. 19, 1863

*It is a grand mistake to think of
being great without goodness;
and I pronounce it as certain that
there was never yet a truly great
man that was not at the same
time truly virtuous.*

BENJAMIN FRANKLIN: *The Busy-Body*, Feb. 18, 1729

Silence makes no mistakes.

FRENCH PROVERB

*We must have reasons for speech,
but we need none for silence.*

IBID.

*Contemporaries appreciate the
man rather than the merit; but
posterity will regard the merit
rather than the man.*

C.C. COLTON: *Lacon*, 1820

*I have sat through an Italian
opera till, for sheer pain, and
inexplicable anguish, I have
rushed out into the noisiest
places of the crowded streets, to
solace myself with sounds which
I was not obliged to follow, and
get rid of the distracting torment
of endless, fruitless, barren
attention.*

CHARLES LAMB: *A Chapter on Ears*, 1821 (London Magazine, March)

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Considerations before you prescribe Cytotec

- Because of its abortifacient property, Cytotec should not be prescribed for women who are pregnant. Patients must be advised of the abortifacient property and warned not to give the drug to others.



BRIEF SUMMARY

CONTRAINDICATIONS AND WARNINGS: Cytotec (misoprostol) is contraindicated, because of its abortifacient property, in women who are pregnant. (See *Precautions*.) Patients must be advised of the abortifacient property and warned not to give the drug to others. Cytotec should not be used in women of childbearing potential unless the patient requires nonsteroidal anti-inflammatory drug (NSAID) therapy and is at high risk of complications from gastric ulcers associated with use of the NSAID, or is at high risk of developing gastric ulceration. In such patients, Cytotec may be prescribed if the patient

- is capable of complying with effective contraceptive measures.
- has received both oral and written warnings of the hazards of misoprostol, the risk of possible contraception failure, and the danger to other women of childbearing potential should the drug be taken by mistake.
- has had a negative serum pregnancy test within two weeks prior to beginning therapy.
- will begin Cytotec only on the second or third day of the next normal menstrual period.

INDICATIONS AND USAGE: Cytotec (misoprostol) is indicated for the prevention of NSAID (nonsteroidal anti-inflammatory drugs, including aspirin)-induced gastric ulcers in patients at high risk of complications from gastric ulcer, eg, the elderly and patients with concomitant debilitating disease, as well as patients at high risk of developing gastric ulceration, such as patients with a history of ulcer. Cytotec has not been shown to prevent duodenal ulcers in patients taking NSAIDs. Cytotec should be taken for the duration of NSAID therapy. Cytotec has been shown to prevent gastric ulcers in controlled studies of three months' duration. It had no effect, compared to placebo, on gastrointestinal pain or discomfort associated with NSAID use.

CONTRAINDICATIONS: See boxed *CONTRAINDICATIONS AND WARNINGS*.

Cytotec should not be taken by anyone with a history of allergy to prostaglandins.

WARNINGS: See boxed *CONTRAINDICATIONS AND WARNINGS*.

PRECAUTIONS:

Information for patients: Cytotec is contraindicated in women who are pregnant, and should not be used in women of childbearing potential unless the patient requires nonsteroidal anti-inflammatory drug (NSAID) therapy and is at high risk of complications from gastric ulcers associated with the use of the NSAID, or is at high risk of developing gastric ulceration. Women of childbearing potential should be told that they must not be pregnant when Cytotec therapy is initiated, and that they must use an effective contraception method while taking Cytotec.

See boxed *CONTRAINDICATIONS AND WARNINGS*.

Patients should be advised of the following:

Cytotec is intended for administration along with nonsteroidal anti-inflammatory drugs (NSAIDs), including aspirin, to decrease the chance of developing an NSAID-induced gastric ulcer.

Cytotec should be taken only according to the directions given by a physician.

If the patient has questions about or problems with Cytotec, the physician should be contacted promptly.

THE PATIENT SHOULD NOT GIVE CYTOTEC TO ANYONE ELSE. Cytotec has been prescribed for the patient's specific condition, may not be the correct treatment for another person, and may be dangerous to the other person if she were to become pregnant.

The Cytotec package the patient receives from the pharmacist will include a leaflet containing patient information. The patient should read the leaflet before taking Cytotec and each time the prescription is renewed because the leaflet may have been revised.

Keep Cytotec out of the reach of children.

SPECIAL NOTE FOR WOMEN: Cytotec must not be used by pregnant women. Cytotec may cause miscarriage. Miscarriages caused by Cytotec may be incomplete, which could lead to potentially dangerous bleeding, hospitalization, surgery, infertility, or maternal or fetal death.

Drug interactions: See *Clinical Pharmacology*. Cytotec has not been shown to interfere with the beneficial effects of aspirin on signs and symptoms of rheumatoid arthritis. Cytotec does not exert clinically significant effects on the absorption, blood levels, and antiplatelet effects of therapeutic doses of aspirin. Cytotec has no clinically significant effect on the kinetics of diclofenac or ibuprofen.

Animal toxicology: A reversible increase in the number of normal surface gastric epithelial cells occurred in the dog, rat, and mouse. No such increase has been observed in humans administered Cytotec for up to one year.

An apparent response of the female mouse to Cytotec in long-term studies at 100 to 1000 times the human dose was hyperostosis, mainly of the medulla of sternbrae. Hyperostosis did not occur in long-term studies in the dog and rat and has not been seen in humans treated with Cytotec.

Carcinogenesis, mutagenesis, impairment of fertility: There was no evidence of an effect of Cytotec on tumor occurrence or incidence in rats receiving daily doses up to 150 times the human dose for 24 months. Similarly, there was no effect of Cytotec on tumor occurrence or incidence in mice receiving daily doses up to 1000 times the human dose for 21 months. The mutagenic potential of Cytotec was tested in several *in vitro* assays, all of which were negative.

Misoprostol, when administered to breeding male and female rats at doses 6.25 times to 625 times the maximum recommended human therapeutic dose, produced dose-related pre- and post-implantation losses and a significant decrease in the number of live pups born at the highest dose. These findings suggest the possibility of a general adverse effect on fertility in males and females.

Pregnancy: Pregnancy Category X. See boxed *CONTRAINDICATIONS AND WARNINGS*.

Nonteratogenic effects: Cytotec may endanger pregnancy (may cause miscarriage) and thereby cause harm to the fetus when administered to a pregnant woman. Cytotec produces uterine contractions, uterine bleeding, and expulsion of the products

- Cytotec should be used in a woman of childbearing potential only if she is using effective contraceptive measures, has received oral and written warnings concerning the hazards of misoprostol, has had a negative serum pregnancy test within two weeks prior to beginning therapy, and will begin therapy only on the second or third day of the next menstrual period.

- Some patients may experience transient diarrhea, which usually resolves in about a week, or abdominal discomfort. Abdominal discomfort may persist in the absence of gastric ulceration.

of conception. Miscarriages caused by Cytotec may be incomplete. In studies in women undergoing elective termination of pregnancy during the first trimester, Cytotec caused partial or complete expulsion of the products of conception in 11% of subjects and increased uterine bleeding in 41%. If a woman is or becomes pregnant while taking this drug, the drug should be discontinued and the patient apprised of the potential hazard to the fetus.

Teratogenic effects: Cytotec is not fetotoxic or teratogenic in rats and rabbits at doses 625 and 63 times the human dose, respectively.

Nursing mothers: See *Contraindications*. Cytotec should not be administered to nursing mothers because the potential excretion of misoprostol acid could cause significant diarrhea in nursing infants.

Pediatric use: Safety and effectiveness in children below the age of 18 years have not been established.

ADVERSE REACTIONS: The following have been reported as adverse events in subjects receiving Cytotec:

Gastrointestinal: The most frequent gastrointestinal adverse events were diarrhea and abdominal pain. The incidence of diarrhea ranged up to 40% but averaged 10% in clinical trials.

Diarrhea was dose related and usually developed early in the course of the treatment (after 13 days), usually was self-limiting (often resolving after 8 days), but sometimes required discontinuation of Cytotec (2% of the patients). Rare instances of profuse diarrhea leading to severe dehydration have been reported. Patients with an underlying condition such as inflammatory bowel disease, or those in whom dehydration, if it occurs, would be dangerous, should be monitored carefully if Cytotec is prescribed. The incidence of diarrhea can be minimized by administering after meals and at bedtime, and by avoiding coadministration of Cytotec with magnesium-containing antacids.

Gynecological: Women who received Cytotec during clinical trials reported the following gynecological disorders: spotting (0.7%), cramps (0.6%), hypermenorrhea (0.5%), menstrual disorder (0.3%) and dysmenorrhea (0.1%). Postmenopausal vaginal bleeding may be related to Cytotec administration. If it occurs, diagnostic workup should be undertaken to rule out gynecological pathology.

Elderly: There were no significant differences in the safety profile of Cytotec in approximately 500 ulcer patients who were 65 years of age or older compared to younger patients.

Additional adverse events which were reported are categorized as follows:

Incidence greater than 1%: In clinical trials, the following adverse reactions were reported by more than 1% of the subjects receiving Cytotec and may be caused or related to the drug: nausea (3.2%), flatulence (2.9%), headache (2.4%), dyspepsia (2.0%), vomiting (1.3%), and constipation (1.1%). However, there were no significant differences between the incidences of these events for Cytotec and placebo.

Causal relationship unknown: The following adverse events were infrequently reported. Causal relationships between Cytotec and these events have not been established but cannot be excluded: aches/pains, asthenia, fatigue, fever, risk of weight changes, rash, dermatitis, alopecia, pallor, breast pain, abnormal vision, conjunctivitis, deafness, tinnitus, earache, upper respiratory tract infection, bronchitis, bronchospasm, dyspnea, pneumonia, epistaxis, chest pain, edema, diaphoresis, hypotension, hypertension, arrhythmia, phlebitis, increased diastolic enzymes, syncope, GI bleeding, GI inflammation/infection, rectal disorder, normal hepatobiliary function, gingivitis, reflux, dysphagia, amylase increase, anorexia, glycosuria, gout, increased nitrogen, increased alkaline phosphatase, polyuria, dysuria, hematuria, urinary tract infection, anxiety, change in appetite, depression, drowsiness, dizziness, thirst, impotence, loss of libido, sweating increase, neuropathy, neurosis, arthralgia, myalgia, muscle cramps, stiffness, back pain, anemia, abnormal differential, thrombocytopenia, purpura, ESR increased.

Important note: Complete prescribing information should be consulted prior to use.

DOSAGE AND ADMINISTRATION: The recommended adult oral dose of Cytotec for the prevention of NSAID-induced gastric ulcers is 200 mcg four times daily with food. If this dose cannot be tolerated, a dose of 100 mcg can be used. Cytotec should be taken for the duration of NSAID therapy as prescribed by the physician. Cytotec should be taken with a meal, and the last dose of the day should be taken at bedtime.

Renal impairment: Adjustment of the dosing schedule in renally impaired patients is not routinely needed, but dosage can be reduced if the 200-mcg dose is not tolerated.

1/31/91 • P91CY50

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Of Obsessions and Addictions — Of Mother's Day

Is it possible, then, that Western science could provide a medicine which would at least give the human organism a start in releasing itself from its chronic self-contradiction? The medicine might indeed have to be supported by other procedures — psychotherapy, 'spiritual' disciplines, and basic changes in one's pattern of life — but every diseased person seems to need some kind of initial lift to get him on the way to health. The question is by no means absurd if it is true that what afflicts us is a sickness not just of the mind but of the organism, of the very functioning of the nervous system and the brain. Is there, in short, a medicine which can give us temporarily the sensation of being integrated, of being fully one with ourselves and with nature as the biologist knows us, theoretically, to be? If so, the experience might offer clues to whatever else must be done to bring about full and continuous integration. It might be at least the tip of Ariadne's thread to lead us out of the maze in which all of us are lost from our infancy.

"Relatively recent research suggests that there are at least three such medicines, though none is an infallible 'specific.' They work with some people, and much depends upon the social and psychological context in which they are given. Occasionally their effects may be harmful, but such limitations do not deter us from using penicillin — often a far more dangerous chemical than any of these three. I am

speaking, of course, of mescaline (the active ingredient of the peyote cactus), lysergic acid diethylamide (a modified ergot alkaloid), and psilocybin (a derivative of the mushroom *psilocybe mexicana*).

"The peyote cactus had long been used by the Indians of the Southwest and Mexico as a means of communication with the divine world, and today the eating of dried buttons of the plant is the principal sacrament of an Indian church known as the Native American Church of the United States — by all accounts a most respectable and Christian organization. At the end of the nineteenth century its effects were first described by Weir Mitchell and Havelok Ellis, and some years later its active ingredient was identified as mescaline, a chemical of the amine group which is quite easily synthesized.

"Lysergic acid diethylamide was first discovered in 1938 by the Swiss pharmacologist A. Hofman in the course of studying the properties of the ergot fungus. Quite by accident he absorbed a small amount of this acid while making certain changes in its molecular structure, and noticed its peculiar effects. Further research proved that he had hit upon the most powerful consciousness-changing drug now known, for LSD-23 (as it is called for short) will produce its characteristic results in so minute a dosage as 20 micrograms, 1/700,000,000 of an average man's weight.

"Psilocybin is derived from another of the sacred plants of the

Mexican Indians — a type of mushroom known to them as *teonanacatl*, 'the flesh of God.' Following Robert Weitlaner's discovery in 1936 that the cult of 'the sacred mushroom' was still prevalent in Oaxaca, a number of mycologists, as specialists in mushrooms are known, began to make studies of the mushrooms of this region. Three varieties were found to be in use. In addition to *psilocybe mexicana* there were also *psilocybe aztecorum* Heim and *psilocybe Wassonii*, named respectively after the mycologists Roger Heim and Gordon and Valentina Wasson, who took part in the ceremonies of the cult. . . .

"The physical world is vibration, quanta, but vibrations of what? To the eye, form and color; to the ear, sound; to the nose, scent; to the fingers, touch. But these are all different languages for the same thing, different qualities of sensitivity, different dimensions of consciousness. The question, 'Of what are they differing forms?' seems to have no meaning. What is light to the eye is sound to the ear. I have the image of the senses being terms, forms, or dimensions not of one thing common to all, but of each other, locked in a circle of mutuality. Closely examined, shape becomes color, which becomes vibration, which becomes sound, which becomes smell, which becomes taste, and then touch, and then again shape. (One can see, for example, that the shape of a leaf is its color. There is no outline around the leaf; the outline is the limit

where one colored surface becomes another.) I see all these sensory dimensions as a round dance, gesticulations of one pattern being transformed into gesticulations of another. And these gesticulations are flowing through a space that has still other dimensions, which I want to describe as tones of emotional color, of light or sound being joyous or fearful, gold elated or lead depressed. These, too, form a circle of reciprocity, a round spectrum so polarized that we can only describe each in terms of the others.

"Sometimes the image of the physical world is not so much a dance of gestures as a woven texture. Light, sound, touch, taste and smell become a continuous warp, with the feeling that the whole dimension of sensation is a single continuum or field. Crossing the warp is a woof representing the dimension of meaning — moral and aesthetic values, personal or individual uniqueness, logical significance, and expressive form — and the two dimensions interpenetrate so as to make distinguishable shapes seem like ripples in the water of sensation. The warp and woof stream together, for the weaving is neither flat nor static but a many-directioned cross-flow of impulses filling the whole volume of space. I feel that the world is on something in somewhat the same way that a color photograph is on a film, underlying and connecting the patches of color, though the film here is a dense rain of energy. I see that what it is on is my brain — 'that enchanted loom,' as Sherrington called it. Brain and world, warp of sense and woof of meaning, seem to interpenetrate inseparably. They hold their boundaries or limits in common in such a way as to define one another and to be impossible without each other."

Alan W. Watts, *The Joyous Cosmology: Adventures in the Chemistry of Consciousness*

(a short monologue written by this one time Episcopalian priest turned Zen Buddhist and written while "experimentally" taking some of the above described hallucinogens.)

"What shall I write of this month?", I said to the live-in cook as she began preparations for supper. One simply runs dry at times it seems. Dry of inspiration. Of ideas. For myself, dry, arid, of anything new or different or interesting with which to fill this Editor's Corner. And I had run dry. I remember reading once of William Faulkner who talked of the "well running dry" in regards to his writing capability. It was at such time that he disappeared for days on end into the caverns of New York until the alcohol left his ravaged body. Such doesn't seem to happen to the addicted, I thought, for that is what we deal with this coming month, in June, in the *Journal*. The addicts always, or so it seems to me, has that something driving them. There seem always to be present the fueling from anticipation of the next fix. The next high.

But back to the cook. She was getting hamburgers ready now. It was to be a simple evening meal tonight. Not the usual planned three course repast. I live in a home with a wife and daughter both addicted to gourmet cooking. "It is for May is it not?", she said. "Then write about Mother's Day. It comes in May you know." "Foolish woman," I thought. "She doesn't understand the seriousness of the matter. Addiction and motherhood. Foolishness."

But a sense of saneness prevailed. "My mother addicted me," I thought. She said to me early in childhood, then over and over through the years, "You can become anything you want to." We

went once to Birmingham to try out for the Atlanta Boys Choir with voice that frightened pigeons. There was bred an unconscious feeling that nothing less than perfection would suffice. I place no blame and hold no malice but only say simply that I was early addicted to excelling whether that be destructive or not. The excelling did not necessarily happen but the fact of the matter is that the concept encased me with no escape but to at least try to conform to the edict.

And so I began to think about that relationship between "motherhood" and "addiction" and to think about it in particular in regards to some recent reading I had done. Such can be an addiction also it is said, reading that is. It is said that Sir James George Frazer who wrote *The Golden Bough* read to such excess that he literally lost his eyesight. I had not read much of John Updike in the past though I knew of the "Rabbit" series and had in my library a signed copy of *Rabbit Redux*. Updike had used his character, Harry "Rabbit" Angstrom, in three previous novels which he called *Rabbit Run*, *Rabbit Redux*, and *Rabbit Is Rich* before he wrote the last one which he titled *Rabbit at Rest*. It was in these novels that Updike had used "Rabbit" to chronicle the American social scene, or to chronicle it as he saw it, of the Sixties, the Seventies, and the Eighties. Deep in the text of *Rabbit at Rest* is a conversation between Rabbit's wife, Janice, and their son, Nelson. Listen. This is motherhood and addiction.

"Let's try to keep talking about you, not your father. As you say, I'm a simple woman. Not sharp, not tough. I'm very ignorant about a lot of things. The simplest things about this, like how much it takes and how much it costs. I don't ever know how you take it — up the nose or smoke it or what you put

in to smoke it or any of that. All know about cocaine is what's on Miami Vice and the talk shows and they don't explain very much. It's just not something I ever thought would make a difference in my life...."

He laughs, superior. "They're called lines, Mom, if you snort them. You chop up this powder with a razor blade on a mirror usually and make them into lines about an eighth of an inch wide and an inch or two long. You inhale them into your nose with a straw or a glass vooter you can buy at these places down in Brewer near the bridge. Some of the guys use a rolled up dollar bill; if say it's a hundred-dollar bill, that's considered cool." He smiles, remembering these crisp, glittering procedures, among friends in their condos and apartments in the high northern section of Brewer backing up to Mt. Judge.

His mother asks, "Does Pru do this with you?"

His face clouds. "She used to, but then stopped when she was pregnant with Roy, and then didn't take it up again. She's become quite rigid. She says it destroys people."

"Is she right?"

"Some people. But not really. Those people would have gone under to something. Like I say, it's better for you physically than alcohol. You can do a line at work quick in the john and nobody can tell the difference, except you feel like Superman. Sell like Superman, too. When you feel irresistible, you're hard to resist." He laughs again, showing small grayish teeth like hers. His face is small like hers, as if not wanting to put too much up front where the world can damage it. Whereas Harry in his middle age has swelled, his face a moon above it all. People down here, these smart Jews, like to kid him and take advantage like the three in that four-me.

She touches her upper lip with

her tongue, not certain where to take this interview now. She knows she will not be able to pry Nelson this open soon again. He is flying back tomorrow afternoon, to make a New Year's Eve party. She asks, "Do you do crack, too?"

He becomes more guarded. He lights a Camel and throws his head back to drink the last of the coffee. A nerve in this temple is twitching, under the gray transparent skin. "Crack's just coke that's been free-based for you — little pebbles, they call them rock. You smoke them in a kind of pipe usually." He gestures; smoke loops around his face. "It's a nice quick lift, quicker than snorting. But then you crash quicker. You need more. You get in a run."

"You do this, then. Smoke crack."

"I've been known to. What's the diff? It's handy, it's all over the street these last couple years, it's dirt cheap, what with the competition between the gangs. Fifteen, even ten dollars a rock. They call it candy. Mom, it's no big deal. People your age are superstitious about drugs but it's just a way of relaxing, of getting your kicks. People since they lived in caves have had to have their kicks. Opium, beer, smack, pot — it's all been around for ages. Coke's the cleanest of them all, and the people who use it are successful by and large. It keeps them successful, actually. It keeps them sharp."

Her hand has come to rest on her own bare foot there on the sofa cushion. She gives her toes a squeeze, and spreads them to feel air between. "Well, you see how stupid I am," she says. "I thought it was all through the slums and behind most of the crime we read about."

I have, we all have, seen so much of this problem in medicine as indeed have we seen it in all of society. It was the stimulus for the MAG to accept the advice and the

challenge of Dr. Doug Talbott some 20 years ago to institute the Impaired Physicians Program. That particular decision led to this state medical society being looked upon today as having first recognized and confronted the problem of physician addiction and of having done something about it. I have seen as perhaps have we all the problem close at hand. Seen close associates, friends, unsuspected of and yet in trouble.

One such occurrence in particular holds fast in my memory, for that individual had quickly and without argument admitted the problem, the weakness, compliantly entered the intervention program, followed the post-treatment monitoring and yet returned to the practice only to find rejection by peers. I said to my friend, for so he remains, "Tell me about it. Tell me what it is like. Tell me about the Impaired Physicians Program. Tell me what hurt the most. What helped the most." He looked away as if I were one of them. "They never forgave me. Never forgave my weakness. I did what they asked. All the monitoring. But they never forgave me."

We live, all we physicians and surgeons, in a delicate balance between "too much and too little." Something challenged us, perhaps our mothers, perhaps a gene traveling a long and lonesome genetic highway through the years, to this place in which we find ourselves. To a place where we rise each morning confronted by an unpredictable series of problems couched in a veritable plethora of individual personalities asking only that we present solutions, provide results, leading to nothing less than flawless perfection. We spend our restless nights awaiting the ring of a telephone calling us from rest once again to flawless perfection. We dream of placing the perfect stitch or misplacing it. We await the legal

summons to explain to a lay jury and a paper-mache lawyer masquerading as an expert, certain technical matters of medical treatment far beyond their comprehension but which have led to less than a perfect result.

“Addiction” takes many forms. Perhaps it rests somewhere in us all. Work, play, rest, lethargy, sex, casual indifference, slothfulness. Drugs. They can

all in their own way be destructive. Somewhere in the hazy foreverness of a cocaine fix there must be a time when the addict thinks, “Man, ain’t this the life” and wish for that state of mind to go endlessly on. Who of us have not lain on a sunny lawn or a Carribean beach and thought if only that day could go on and on and on? The medical mind turns quickly to solutions, to cures, however. Turns to ask the question of what can be done to correct the

destructive habit. And that is where we come back to Mother’s Day. Come back to it for that is where we were first challenged and first cautioned of the prize to be gained and the pitfalls which we would confront. She whispered quietly through the years. “You can become anything you want to.” Perhaps the answer lies there. Lies in the will to “become.”

A DAY'S IMMORTALITY

*I feel an awed expectancy as day's
 Last breath is drawn, the slowing pulse grows
 still.
 The gauze of dusk wipes up the crimson stains
 That mortal wound has smeared on rumpled
 clouds
 And puddled in the west. A grandeur still
 Remains through all the quiet fading light,
 And stays to gild the drapery of night.*

OLD FRIENDS ARE LIKE OLD WINE

*Old friends are like old wine;
 They suit the taste —
 Like wine the choicest years
 Leave none to waste.

 Old friendship may be chilled,
 Though never so cold
 But they warm the distance and years
 Like wine of old.

 Labels can't depict
 What lies inside,
 For friends hold more than labels
 Can ever hide.

 So I savor vintage friends
 And vintage wine —
 No promise of vintners says
 How long they're mine!*

JOHN RANSOM LEWIS, M.D.

Dr. Lewis, a plastic surgeon in Atlanta, is Georgia's Poet Laureate.

JUNE 1991

3-7 — *Atlanta: Modern Methods of Diagnosing and Treating Diabetes Mellitus and Its Complications.*

Category 1 credit. Contact Office of CME, Emory Univ. Sch. of Med., 1440 Clifton Rd., Atlanta 30322. PH: 404/727-5695.

9-13 — *Sea Island: 15th Symposium on Lung Disease.*

Contact M. Williamson, Southern Medical Association, 35 Lakeshore Dr., PO Box 190088, Birmingham, AL 35219. PH: 800/423-4992.

13-15 — *Atlanta: Contact Lens Update.*

Category 1 credit. Contact Office of CME, Emory Univ. Sch. of Med., 1440 Clifton Rd., Atlanta 30322. PH: 404/727-5695.

17-22 — *Kiawah Island, SC: 22nd Annual Internal Medicine Symposium.*

Category 1 credit. Contact Div. of Cont. Ed., MCG, Augusta 30912-1400. PH: 404/721-3967.

20-23 — *Sea Island: GA Chapter, American Academy of Pediatrics.*

Contact William C. Mankin, 4059 Land O'Lakes Drive, NE, Atlanta 30342. PH: 404/237-3922.

21-23 — *Hilton Head Island, SC: Daily Anesthetic Challenges.*

Category 1 credit. Contact Div. of Cont. Ed., MCG, Augusta 30912-1400. PH: 404/721-3967.

27-30 — *Kiawah Island, SC: Hematology and Oncology.*

Category 1 credit. Contact Div. of Cont. Ed., MCG, Augusta 30912-1400. PH: 404/721-3967.

JULY 1991

8-11 — *Lake Lanier: Nuclear Medicine Update.*

Category 1 credit. Contact Office of CME, Emory Univ. Sch. of Med., 1440

Clifton Rd., Atlanta 30322. PH: 404/727-5695.

15-17 — *Kiawah Island, SC: Update in Gynecology.*

Category 1 credit. Contact Div. of Cont. Ed., MCG, Augusta 30912-1400. PH: 404/721-3967.

18-20 — *Kiawah Island, SC: 11th Annual Clinical Obstetrics.*

Category 1 credit. Contact Div. of Cont. Ed., MCG, Augusta 30912-1400. PH: 404/721-3967.

18-20 — *Kiawah Island, SC: Neurology for the Non-Neurologist.*

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22-26 — *Kiawah Island, SC: 13th Annual Critical Care Medicine.*

Category 1 credit. Contact Div. of Cont. Ed., MCG, Augusta 30912-1400. PH: 404/721-3967.

14-19 — *Hilton Head Island, SC: Clinical Cardiology.*

Category 1 credit. Contact Div. of Cont. Ed., MCG, Augusta 30912-1400. PH: 404/721-3967.

29-31 — *Kiawah Island, SC: 14th Annual Pediatric Update.*

Category 1 credit. Contact Div. of Cont. Ed., MCG, Augusta 30912-1400. PH: 404/721-3967.

AUGUST 1991

1-3 — *Hilton Head Island, SC: Financial Management.*

Category 1 credit. Contact Div. of Cont. Ed., MCG, Augusta 30912-1400. PH: 404/721-3967.

5-10 — *Amerila Island, FL: Summer Imaging and Interventional Techniques.*

Category 1 credit. Contact Office of CME, Emory Univ. Sch. of Med., 1440 Clifton Rd., Atlanta 30322. PH: 404/727-5695.

SEPTEMBER 1991

11-13 — *Savannah: 15th Annual Neonatology — The Sick*

Newborn. Category 1 credit.

Contact Div. of Cont. Ed., MCG, Augusta 30912-1400. PH: 404/721-3967.

23-25 — *Atlanta: Advanced Demonstrations in Percutaneous Transluminal Angioplasty XXVI.*

Category 1 credit. Contact Office of CME, Emory Univ. Sch. of Med., 1440 Clifton Rd., Atlanta 30322. PH: 404/727-5695.

27-29 — *Atlanta: Gastroenterology for Primary Care Physicians.*

Category 1 credit. Contact Div. of Cont. Ed., MCG, Augusta 30912-1400. PH: 404/721-3967.

30-1 Oct. — *Atlanta: Quantitative Thallium Myocardial Tomography.*

Category 1 credit. Contact Office of CME, Emory Univ. Sch. of Med., 1440 Clifton Rd., Atlanta 30322. PH: 404/727-5695.

OCTOBER 1991

3-6 — *Atlanta: GA Chapter, American Academy of Pediatrics.*

Contact William C. Mankin, 4059 Land O'Lakes Drive, NE, Atlanta 30342. PH: 404/237-3922.

24-25 — *Atlanta: Women's Health Care.*

Category 1 credit. Contact Office of CME, Emory Univ. Sch. of Med., 1440 Clifton Rd., Atlanta 30322. PH: 404/727-5695.

25-27 — *Atlanta: American College of Utilization Review Physicians.*

Contact ACURP, Southbridge Park, Bldg 3, Suite 304, 1521 S. Tamiami Trail, Venice, FL 34292. PH: 813/497-3340.

28-29 — *Atlanta: TC-99M Myocardial Spect.*

Category 1 credit. Contact Office of CME, Emory Univ. Sch. of Med., 1440 Clifton Rd., Atlanta 30322. PH: 404/727-5695.

Dear Editor,

Just a note to say how much I enjoy the *MAG Journal* these days. I eagerly look forward to the collections and your writings on the editorial pages, especially.

I thought the November, 1990, special issue on "The Ethical Dilemma" was outstanding. So outstanding that I am keeping it. I wish it were on everyone's reading list, not the least the students.

The best to you,

Lovick E. Dickey, M.D.

*Retired Orthopedic Surgeon
Macon*

Dear Editor,

I would like to thank you for the very attractive and informative *MAG Membership Directory* that you edited. It is a very important resource for me.

I am Executive Director of the Dougherty County Medical Society and one of my most important areas of responsibility is assisting the public in locating a physician. I receive calls not only from Dougherty County but from surrounding counties. If we do not have the specialty area needed in Albany, I refer them to the closest location with that specialty. My Membership Directory has been invaluable. In the major cities, I refer them to the County Executive.

Sincerely,

Joanne McKemie

Executive Directory

Dougherty County Medical Society

Dear Editor,

I'm really not surprised that you have not heard of the "Harrison L. Rogers, Jr., M.D. Excellence In Medical Journalism Award" for this has been a project of the Medical Association of Atlanta which has been going since 1986 with little fanfare. Recognition is usually confined to the announcement that a particular media representative has received an award for a particular program or story. Each Fall we have a program at the Medical Association of Atlanta consisting of a reception and awards announcement with presentation of appropriate plaques.

Melody Palmer, the staff lady at MAA, who handles public relations has a panel of "judges" who review media productions throughout the year and each Fall decide on the winner for print media, radio and television. A series of two or three awards are given in each category.

This program was developed to enhance our relationship with the local media, and I believe that it has improved our relationships. We certainly know these folks better, and it gives us an opportunity to meet those new people coming in to the Atlanta area from other places and hopefully will encourage them to call the MAA for answers to their medical questions.

Sincerely,

Harrison L. Rogers, Jr., M.D.

General Surgeon, Atlanta

QUOTES

That profound and complicated sentiment which we call love is the universal thirst for a communion not merely of the senses, but of our whole nature, intellectual, imaginative and sensitive. . . . The sexual impulse, which is only one, and often a small part of those claims, serves, from its obvious and external nature, as a kind of type of expression of the rest, a common basis, an acknowledged and visible link.

P.B. SHELLEY: *Fragment*, 1818

It is a vulgar error to suppose that a gentleman must be ready to fight. The utmost that can be demanded of him is that he be incapable of a lie.

R. W. EMERSON: *Journal*,

Dec. 14, 1850

The ennobling difference between one man and another, — between one animal and another, — is precisely in this, that one feels more than another.

JOHN RUSKIN: *Sesame and*

Lilies, I, 1865

Honest men fear neither the light nor the dark.

THOMAS FULLER: *Gnomologia*, 1732

MRI UPDATE



Figure 1



Figure 2

CLINICAL HISTORY: This is a 26-year-old male with back pain and right lower extremity radiation.

FINDINGS: This is an example of a normal study on a young adult. **COMMENT:** MRI is the screening test of first choice for suspected disorders of the lumbar spine. Notice the clear depiction of the normal L5-S1 disc (figure 1, crossed arrow). The discs of this patient exhibit high signal intensity reflecting normal hydration and none of the discs are narrowed. None of the discs indent the thecal sac which is of intermediate signal intensity and appears as the gray band

in the center of the image. The vertebral bodies are homogeneous and free of destructive lesions. The conus medullaris (arrow) is normal. This sagittal image demonstrates the advantages of MRI over other screening modalities. Routine CT scanning will not display the conus medullaris, lesions of which may masquerade as disc herniation. The general area of coverage is superior with MRI. Disc detail is much better displayed with MRI.

The axial image at L5-S1 (figure 2) exhibits delineation of intraspinal detail far superior to that of CT. The right S1 nerve root is clearly

displayed (arrow) surrounded by normal perineural fat which is the bright high intensity material in the periphery of the spinal canal. State-of-the-art MR images clearly display the bony anatomy of the lumbar spine including the facet joints (crossed arrow). Degenerative diseases and bony neoplasm are routinely detectable.

MRI involves no ionizing radiation and no intrathecal contrast material is needed. It is a patient-friendly outpatient examination well suited for screening purposes.



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The Foundation for Hospital Art: Painting Out the Pain

John W. D. Feight, William L. Davenport

*Care Givers:
Those who live in the sunshine cast
a shadow and leave their mark. The
splendor is that yours cast light in
places where shadows are dark.*

WILLIAM L. DAVENPORT

Introduction

By William L. Davenport

JOHN FEIGHT began painting murals and canvases in a hospital in Atlanta about 15 years ago. He is a self-taught artist. The idea for his work and ultimately his dream began during a series of hospital visits to a critically ill friend. He was struck by the sameness of the walls, halls, and patient rooms — basically drab and, after a time, oppressive.

Once, after he began painting on one of his first murals, a 4-year-old girl, who had been seriously burned, came up to him and said, "I want to paint." He couldn't say no, and it changed his life. The pursuit of his dream has taken him on a personal odyssey that has brought



The idea for John Feight's work and ultimately his dream began during a series of hospital visits to a critically ill friend. Once, after he began painting on one of his first murals, a 4-year-old girl, who had been seriously burned, came up to him and said, "I want to paint." He couldn't say no, and it changed his life.

many changes in his life and in that of his wife and two sons.

Mr. Feight, formerly an advertising executive with Scientific Atlanta, is founder of The Foundation for Hospital Art, Inc. Mr. Davenport is a retired executive of Scientific Atlanta and a volunteer for the Foundation. Send reprint requests to Mr. Feight, The Foundation for Hospital Art, Inc., 230 Hillswick Court, Atlanta, GA 30328.

John started as a volunteer. After giving over 2,000 paintings to hospitals in the United States and abroad, he left his position as a successful advertising executive to give full time to the work of bringing art to hospitals. With the help of some physicians and others who understood his work, he formed The

The goal of the Foundation is to make available to health care institutions art for walls, ceilings, halls, and patient rooms. The work is available at no cost to not-for-profit hospitals.

Foundation for Hospital Art, a 501(C)(3) nonprofit, publicly supported organization.

The goal of The Foundation for Hospital Art is to make available to health care institutions art for walls, ceilings, halls, and patient rooms. The paintings may be in the form of murals painted directly on the walls and ceilings, canvases for hanging, or sectionalized canvases grouped to form a colorful outdoor scene. The work is made available at no cost to not-for-profit hospitals, through the support of the Foundation and local support by auxiliary groups, corporate donors, and individuals. Untrained painters (both patients and caring community persons) join in painting under the direction of artist John Feight, surprisingly with no reduction in the quality of the art gifts.

John and the Foundation have been featured in national publications, on the NBC "Today Show," "The Paul Harvey Show," and on other national media events. John was awarded the George Washington Honor Medal from the Freedom Foundation at Valley Forge for his work in hospitals around the world. He has just accepted an invitation to paint with the Olympic Athletes during the '92 Olympic Games in Barcelona.



The paintings may be in the form of murals painted directly on the walls and ceilings, canvases for hanging, or sectionalized canvases grouped to form a colorful outdoor scene. Shown here in "before" and "after" photos is a corridor at the Memorial Sloan-Kettering Cancer Center in New York.

Mercy to Comfort to Love

By John W. D. Feight

In the past 15 years, I have spent several thousand hours in hospitals. To say that these hours have been among my most pleasurable may sound strange. I have encountered patients in all stages of illness and cure.

Almost without exception, I have never encountered any — patients, family, or health care professionals — who did not respond positively to something that would make their environment brighter and more colorful. I do not think it is an overstatement to say that they, patients and families in particular, welcome change that lets a hospital or extended-care facility shed some of its traditional cold, impersonal look and feeling.

Hospitals Should be Beautiful!

A few administrators may genu-

inely believe that the esthetic environment does not need managing and it's not worth the trouble and cost. Certainly it has a lower priority than quality medical systems, uncompromising sanitation conditions, and strong fiscal controls. But the judgment of patients, of the community, and of the staff may be strongly affected by the visual appearance of the public areas of the hospital. Just as the appearance of cleanliness is manageable with the newest motorized equipment, the esthetic appearance of walls, ceilings, and halls is manageable with the simple tools of paintbrushes and rollers, at a nominal cost compared to other systems that meet the eye of patients and the public.

I have seen the appreciation of bright, cheery painting grow remarkably over the 15 years we have been adding art to hospitals around the world. I acknowledge a bias that might make me less than an objec-

AFTER



tive judge of the value of hospital art. A less-involved observer, Ret. Lt. General Murphy A. Chesney, Surgeon General of the U. S. Air Force, commented on the worth of art in overseas military hospitals. "You must understand," he said, "when a young man or woman is confined overseas, mother, spouse, and friends are not just down the street to come in for visits everyday. Our hospitals must not contribute to the loneliness that is present at the time of illness or injury." It was this judgment that let the Air Force to OK hospital art in Weisbaden, Germany; Seoul, Korea; and the Philippines.

Healing Atmosphere

I have had many physicians tell me that they believe the bright cheerful paintings benefit patients. Dr. Edward Bayne, of University Hospital, Jacksonville, Florida, said, "I think that art can definitely be a part of the healing process. I think the hospital atmosphere is often not conducive to healing. It is a mental process as well as a physical proc-

ess. John Feight is brightening up the atmosphere so that not only the body gets well, but the mind also" (television interview, 1986).

Public Relations Value

Administrators see the public relations and marketing value of being first with this new trend to make hospitals a brighter and more attractive place for patients to recover, for families to wait, and for staff to work.

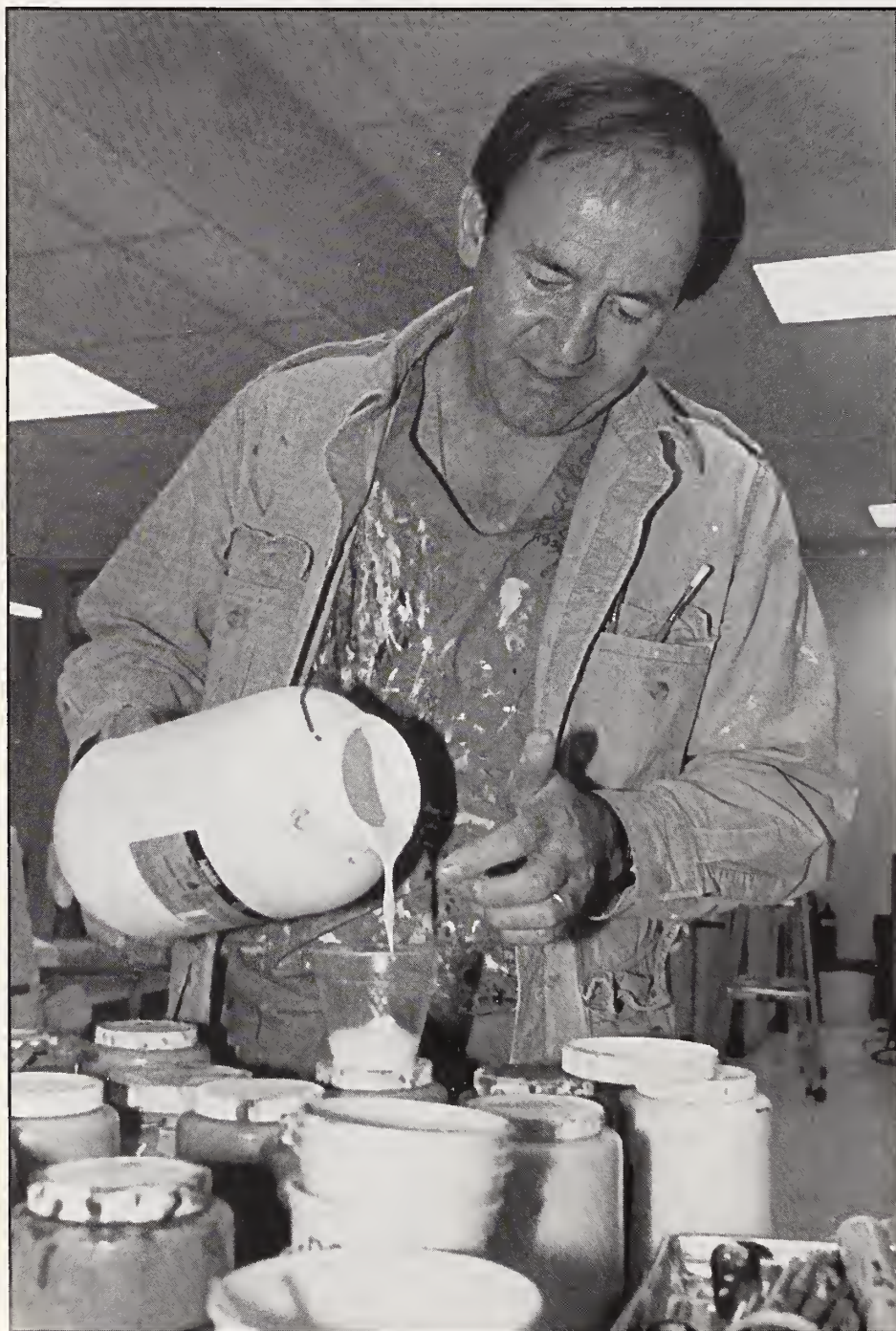
Edward A. Eckenhoff, president and chief executive officer of the National Rehabilitation Hospital (NRH) in Washington, D. C., stated, "The white walls are broken by a great deal of color and a lot of very tranquil scenes. And we did it for a heck of a lot less money than we would have spent on framing a bunch of posters" (interview, *Hospital News*, June, 1987). Eckenhoff continued, "The project at NRH did indeed draw a lot of attention, including reports on local television and a segment on the NBC-TV 'Today.' But the marketing benefit was not the major objective in doing the

The judgment of patients, the community, and the staff may be strongly affected by the visual appearance of the public areas of the hospital. "Our hospitals must not contribute to the loneliness that is present at the time of illness or injury," Ret. Lt. Colonel Murphy A. Chesney, Surgeon General of the U.S. Air Force.

project. The main goal was simply to involve patients and staff. We had patients in electric wheelchairs, who didn't have use of their arms and legs, painting by putting paintbrushes in their mouths."

Patients Participate

The exciting aspect of patient participation in preparing artwork is developing rapidly. It has an unusual attraction for the news media and for many local citizens. Early on, when we noticed that patients, particularly children, wanted to join in the painting, my reaction was, "Don't spoil my work — let me get on with it." However, my experience with the 4-year-old girl and the subsequent general eagerness of many to help was so compelling that we adopted it as an important part of our program. We found that these untrained artists not only did not spoil the work, they were careful workers who helped move the project along faster. I have seen many sad faces break out in smiles as these patients saw what they were doing to brighten their little corner.



After giving over 2000 paintings to hospitals in the United States and abroad, John Feight left his position as a successful advertising executive 15 years ago to give full time to the work of bringing art to hospitals. With the help of some physicians and others who understood his work, he formed The Foundation for Hospital Art, Inc., a nonprofit, publicly supported organization.

Cost of a Hospital Art Program

The cost of a hospital art program can be nothing. The Foundation for Hospital Art has very modest resources. Yet it has a program that has attracted local support for art in individual hospitals. A strong response has come from companies, auxiliaries, and individuals who want to "do something important for our local hospital."

The actual cost varies with size, travel requirements, and other factors. It is modest, however, relative to the impact that it can have. If strong local leadership can be mustered, we can show how this will not cost the hospital anything.

Record To-Date

Record to-date, over 5,500 paintings have been completed far more than 250 hospitals in 87 countries. Over 20,000 volunteers have helped to make this dream come true.

For more information or to make a contribution, you may contact the Foundation at 230 Hillswick Court, Atlanta, GA 30328 or phone 404-393-2931.

Triumph Over Tragedy: The Story of Shepherd Spinal Center

TRAGEDY CAN BE the impetus to greatness, the driving force that propels people to remarkable achievements. It was tragedy that planted the seeds that brought Shepherd Spinal Center (SSC) into existence. Born of one family's personal tragedy 18 years ago, Shepherd Spinal Center's phenomenal growth has made it a national leader in spinal cord injury care.

Eighteen years ago, James Shepherd was body surfing during a college graduation trip to Rio de Janeiro when waves slammed him against the ocean floor, instantly paralyzing him from the neck down. After bringing him back to Atlanta, his parents, Harold and Alana Shepherd, found that it would be necessary to send him all the way to Colorado for state-of-the-art rehabilitation.

James' injury highlighted the need for a spinal cord injury center to serve Georgia and the Southeast. After he returned from his rehabilitation triumphant — his injury was



The bronze statue of wheelchair athlete Terry Lee, of Marietta, is the first thing patients see at Shepherd's entrance upon their arrival. It was commissioned by an anonymous donor in 1986 as a tribute to the common man in overcoming the life changing affects of catastrophic injury. Denver sculptor Ed Dwight, who also sculpted the images of Martin Luther King and Henry Aaron statues elsewhere in Atlanta, did the work.



The \$23 million expansion currently underway at Shepherd will include a 20-bed pediatric and adolescent unit to serve patients like 4-year-old Sam Haney, shown with his occupational therapist.

incomplete at C6-7 level, and he was able to walk again with the help of a cane and a brace — he, his family, and a handful of friends set out to find financial backing for their dream.

That dream has blossomed into the largest spinal cord injury facility in the United States. Beginning 16 years ago as a six-bed, leased unit in an Atlanta hospital, Shepherd has grown into an 80-bed state-of-the-art facility with a \$23 million expansion in progress.

The story of Shepherd's growth is the union of a community of volunteers, a rare team of medical professionals, and the spirit and perseverance of the hundreds of patients that come to Shepherd each year. This combination has meant rapid growth and exciting advances. Shepherd is now the largest spinal cord injury facility in the United States, and one of only 13 hospitals nationally to be designated a "Model Spinal Cord Injury Program" by the U.S. Department of

Education. David F. Apple, Jr., M.D., is medical director, and H. Hernndon Murray, M.D., is assistant medical director. Allen P. McDonald, M.D., directs the residency program.

Following are some of the unique features that have made Shepherd a national leader in spinal cord injury care.

Fertility for Paralyzed Men

As technology has advanced, Shepherd has stayed abreast of the latest developments and has consistently been among the first in the nation to offer state-of-the-art treatment to its patients. A prime example of that is Shepherd's fertility clinic. Unit the past few years, it was believed that most paralyzed men would never be able to father children. Shepherd's urology department, led by urologists James K. Bennett, M.D., and Bruce G. Green, M.D., is one of only a few fertility clinics in the country to use electroejaculation stimulation to obtain semen from a paralyzed man and implant it in the uterus of his partner. To date, Shepherd has had eight pregnancies and two births.

High Quadriplegia Program

Shepherd has become renowned for its aggressive treatment program for people injured at the fourth cervical vertebra and above. The center admits about 30 patients annually who are C1-4 level. Of those, about 80 percent are successfully weaned off the ventilator, thanks to the efforts of the pulmonology staff including James A. Settle, M.D., Andrew D. Zadoff, M.D., S. Robert Lathan, M.D., and Thomas P. DeMarini, M.D. Thoracic surgeon Joseph I. Miller, M.D., also employs phrenic nerve pacemaker implants to enhance the quality of life of many high quadriplegia patients. Working together, physicians and treatment team have been innovative in making it possible for many high quadriplegics to be ventilator-free. Where once caring for a high



Dr. Bob Lathan examines his patient during rounds at Shepherd. Many spinal cord injured patients will have respiratory complications as a result of injury. For high level quadriplegics (C1-4), Shepherd is known for its aggressive weaning program. The center is staffed to accommodate 10 ventilator-dependent patients at all times.

quadriplegia patient meant preserving the person's life, now the challenge is teaching patients how to live as independently and productively as possible.

Therapeutic Recreation

With a dizzying array of activities from quad rugby to waterskiing, wheelchair tennis, scuba diving, snow skiing, hunting, camping, theater, dancing, and gardening, Shepherd's therapeutic recreation program has grown to be the largest and most respected program of its type in the country. Shepherd pa-

tients learn that the sky's the limit on things they can do after injury. SSC also sponsors the wheelchair division of the Peachtree Road Race, which has become one of the country's largest and most popular 10K wheelchair races, attracting elite wheelchair athletes from around the world.

Team Concept

A variety of specialties working closely together for the rehabilitation of one person — that's the concept that makes rehabilitation at Shepherd so successful. Each pa-

tient's team includes more than 10 different disciplines working in tandem — including physicians, nurses, physical therapists, occupational therapists, psychologists, social workers, therapeutic recreation specialists, nutritionists, respiratory therapists, educators, a sex therapist, a speech pathologist, and a chaplain. This holistic approach to rehabilitation helps people return to normal in most aspects of their lives in much less time.

Research

In 1982, SSC received its first research award from the U.S. Department of Education designating the center a "model system" for spinal cord injury care. Shepherd has been awarded grants consistently since that time and recently received a 5-year, \$1.8 million research and demonstration grant. The center itself also funds research and has become a sought-after collaborator in national research projects with other prestigious facilities.

Intensive Care Unit

Shepherd's eight-bed intensive care unit was created to meet the needs of acutely ill spinal injured patients needing intensive medical care. Thanks to this facility, Shepherd can accept a patient directly from the emergency room and offer state-of-the-art care from the acute phase through rehabilitation. In fact, studies have shown that the sooner a patient comes to Shepherd, the quicker their rehabilitation and the fewer complications they have.

Specialized Care for Children

Through Shepherd's pediatric program, children and adolescents receive specialized care geared specifically for them. Each child is cared for by a team of professionals specializing in pediatrics, headed by pediatric neurologist Barbara M. Weissman, M.D. The pediatric team even includes a staff school teacher whose goal is to help the child re-

Shepherd is now the largest spinal cord injury facility in the United States, and one of only 13 hospitals nationally to be designated a "Model Spinal Cord Injury Program" by the U.S. Department of Education.

turn to school "without missing a beat."

Outpatient Services

Almost 400 patients a month are seen in Shepherd's busy outpatient department, overseen by Outpatient Medical Director Donald P. Leslie, M.D. The clinic offers a wide variety of specialized clinics and services. For example, the SSC seating clinic can help anyone in the community choose the correct wheelchair from many possibilities. At Shepherd's continence clinic, doctors take the knowledge gleaned from years of treating the urological needs of the spinal cord injured population and apply it to the able-bodied population. Also available are a pediatric clinic, a spina bifida clinic, neuroclinic and others, as well as general medical services for former patients.

The Best Is Yet to Come

If Shepherd is impressive now, the future is even brighter. Under construction is a \$23 million expansion that will more than double Shepherd's existing space. The expanded center will include a separate 20-bed pediatric and adolescent unit, additional space for outpatient services, research, education, and administrative support.



A patient's day begins at about 7 a.m. working with occupational therapists on dressing and grooming, then it's off to physical therapist in mat class. The therapy day ends at about 4 p.m. on campus, but many patients will go on evening supervised outings — to sporting or cultural events, to a restaurant, to the mall or theater, for example. Shepherd maintains a fleet of four vans equipped with wheelchair lifts to make it possible for patients to practice the skills learned at Shepherd in real life situations.

A physical therapy and recreation complex is the crown jewel of the expansion, with an aquatics center, gymnasium and weight room for physical conditioning and therapeutic recreation. The expansion is

scheduled to be completed early in 1992.

Accelerated growth has put Shepherd on the cutting edge of spinal cord injury rehabilitation and made it one of the most respected



facilities of its kind in the country. With all this success, some might expect Shepherd to rest on its laurels. But that is not the Shepherd way. The center is still eager for growth and improvement, and it is entering the '90s with enthusiasm and excitement, ready to see what the future will bring.

Since Shepherd Spinal Center's founding in 1975 as a 6-bed unit operating out of leased space in an Atlanta hospital, David F. Apple, Jr., M.D., left, has served as medical director. Fulltime volunteer board member Alana Shepherd and her family have stimulated an impressive legacy of community support that has catapulted the center to its stature as the nation's largest facility dedicated exclusively to paralyzing spinal disorders.

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The Grady Memorial Hospital Burn Unit: A Review of Three and One-half Years' Experience

Barry M. Renz, M.D., Roger Sherman, M.D., F.A.C.S.

SINCE THE EARLY 1950S when the original Surgical Research Unit at Brooke Army Hospital in San Antonio was established and the concept of specialized facilities for treatment of burned patients was advanced, much progress has been made. Mortality related to age and size of burn injury has been significantly reduced. Length of hospital stay has been shortened and morbidity statistics have been markedly improved.

The Burn Center at Grady Memorial Hospital, established by the Department of Surgery of Emory University in 1963, was among the first major institutions to offer specialized burn care. Since then, thousands of patients have been treated for burns at Grady Hospital.

The Grady Burn Center, as a special resource facility, admits patients with burns that require acute specialized care from the entire State of Georgia as well as elsewhere. With 28 total beds, four intensive care beds, and the capability of managing burns in children,

The purpose of this descriptive review is to assess the various factors which influenced the outcome of burn victims admitted to the Grady Burn Center over a 3½-year period.

the Center is among the largest in the country.

In 1983, the Grady Burn Center was renovated with state-of-the-art equipment in association with the

appointment of the current director of the service. The construction of a modern Grady Hospital now underway includes a completely new Burn Center, planned to continue to provide the utmost in sophisticated care.

In addition to some state funding and the support of the Fulton and DeKalb County Commissions, the Grady Burn Center has received strong support from the Metro-Atlanta Firefighters Burn Foundation and from the Alcoa Aluminum Can Recycling Project.

Of the 2 to 2½ million persons who sustain burn injuries each year in the United States,¹ 70 to 100,000 are hospitalized and 10 to 12,000 will die.^{1, 2} Of those hospitalized, 21,000 are admitted to one of the 150 specialized burn care facilities.^{2, 3} Burn care facilities adhere to principles outlined by the American Burn Association (ABA) as well as other local, state, or national authorities. The ABA offers guidelines for burn unit referral.²

Many persons are familiar with

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This study was supported in part by Grant 2-47470 of the Emory Medical Care Foundation Research Fund.

the concept that burn survival depends upon the patient's age and burn size.^{4, 5} Burn survival may vary amongst burn centers.⁶ Variables other than age and burn size effect outcome, such as the presence or absence of inhalation injury⁷ or speed of wound closure.⁵

The purpose of this descriptive review is to assess the various factors which influenced the outcome of burn victims admitted to the Grady Burn Center over a 3½-year period.

Patients and Methods

The Grady Memorial Hospital Burn Unit (GMH-BU) is a 28-bed facility located within a 900-bed inner-city hospital affiliated with the Emory University School of Medicine in Atlanta, Georgia. Those admitted to the GMH-BU are cared for by full time Emory faculty, fellows, and residents.

Immediate care of the burn victim focuses on airway ventilation and oxygenation.^{8, 9} Tracheal intubation is considered early for all patients with clinical findings suggestive of inhalation injury, massive burns, large facial/head burns, respiratory insufficiency, or elevated carboxyhemoglobin levels. Thoracic wall escharotomies can improve ventilation markedly when indicated. Respiratory infections are the most common septic problems in burn patients. Aggressive pulmonary hygiene is instituted early.

Circulation becomes the next focus of attention. Sufficient oxygen must be delivered to all organs systems without delay. Patients with burns less than 20% Total Body Surface Area (TBSA) rarely require a major fluid resuscitation unless the burns are very deep, the patient is an infant or is elderly, concomitant injuries/inhalation are present, or there has been a delay in treatment. Frequently, victims of burns in the 20 to 40% TBSA range will appear well soon after their injury, which can be very misleading.

With 28 total beds, four intensive care beds, and the capability of managing burns in children, the Grady Burn Center is among the largest in the country.

Burns involving more than 30% TBSA generally affect multiple organ systems. Serious physiologic and metabolic derangements of multiple organ systems occur, but may not be clinically obvious soon after the injury. These patients must be approached aggressively with a well-organized resuscitative plan in order to insure survival. Extracellular fluid losses occur most rapidly during the 8 hours after the burn occurs, then slow down over the next 12 to 16 hours. Fluid replacement precedes according to the Parkland formula, using a volume of crystalloid (plain Ringers Lactate) that is calculated based upon weight and the estimated combined second and third degree burn size (4 cc per kilogram per percent combined second and third degree burn over the post-burn 24 hours). The volume infused should match losses, so that one-half of the calculated amount is given during the first 8 hours. Formulas for fluid resuscitation are guidelines and must be tailored to satisfy the patient's needs, monitoring urine output, mental status, skin temperature and color, and acid-base status. Improvement of extremity circulation may require escharotomies.

For larger burns, urinary bladder catheters are placed for accurate hourly urine output quantitation and nasogastric tubes are inserted to maintain gastric decompression and supplement nutrition.

Burn wound care begins with debridement of all easily removed devitalized tissue and a complete burn wound inspection in order to estimate burn size and depth. Visual and tactile characteristics are used to estimate depth and to determine which burns will or will not heal and require autografting. Exact depth is frequently indeterminate early on, and daily burn wound examinations are critical. After burn wounds are inspected, they are covered with silver sulfadiazine burn cream and gauze.

Aggressive early burn wound excision with autografting is used for burns amenable to this type of treatment, i.e. full thickness burns which will not heal, deep second degree burns which will not heal within a 3-week period, high voltage electrical injuries, infected burn wounds, and various deep dorsal hand burns.¹⁰ Spontaneous eschar separation may take 3 weeks or longer. Burn eschar (dead tissue) has been shown to produce hypermetabolism and immune deficiencies.¹¹ Excision of the burn eschar eliminates this inflammatory focus that has been shown to potentiate organ dysfunction.¹² The results of spontaneous eschar separation versus early burn wound excision with or without grafting are similar for burn sizes less than 20% TBSA.¹³ For larger burns or selected burns less than 20% TBSA, early burn wound excision, referring to eschar removal prior to its spontaneous separation, is practiced almost routinely beginning generally on the third to fifth post-burn day. The burn eschar is excised, using a variety of techniques, until only viable dermis, subcutaneous fat, or muscular fascia remains. Autografts obtained from unburned areas are used, expanded (meshed) or unexpanded, to cover excised areas in order to close the wound as quickly as possible.

Systemic antibiotics are used for definite indications and not pro-

phylactically. Topical antimicrobials (burn cream) such as silver sulfadiazine, are used routinely, providing protection against infection for those burns in the 10 to 40% TBSA range, but little protection for larger burns. Care must be taken to examine the eyes closely for injury. Burn wound dressings are generally changed twice daily. Facial burns are either dressed with a clear antibiotic ointment or without.

Hands and other joints are aggressively splinted and exercised. Daily hydrotherapy with mechanical wound debridement and range of motion exercise is begun as early as possible.

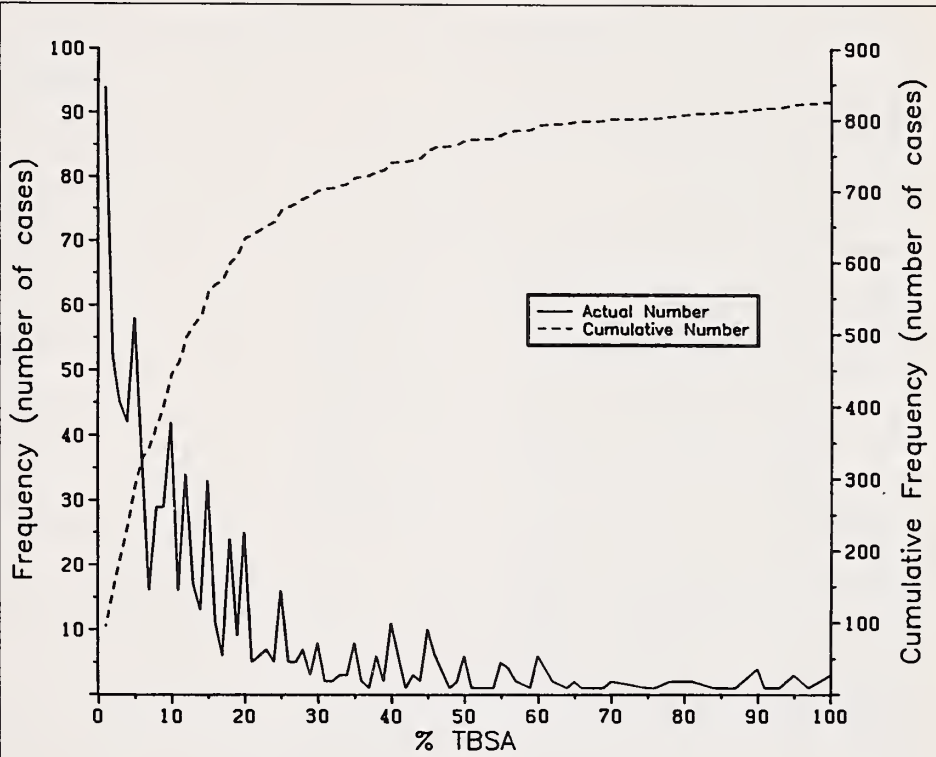
Nutritional support is instituted soon after injury to meet the increased metabolic demands in burn patients. Nutritional support is an absolute necessity. If the patient is unable to maintain adequate oral intake, feeding is begun within 12-24 hours of admission per nasogastric or nasoenteral tubes.

Statistical Methods

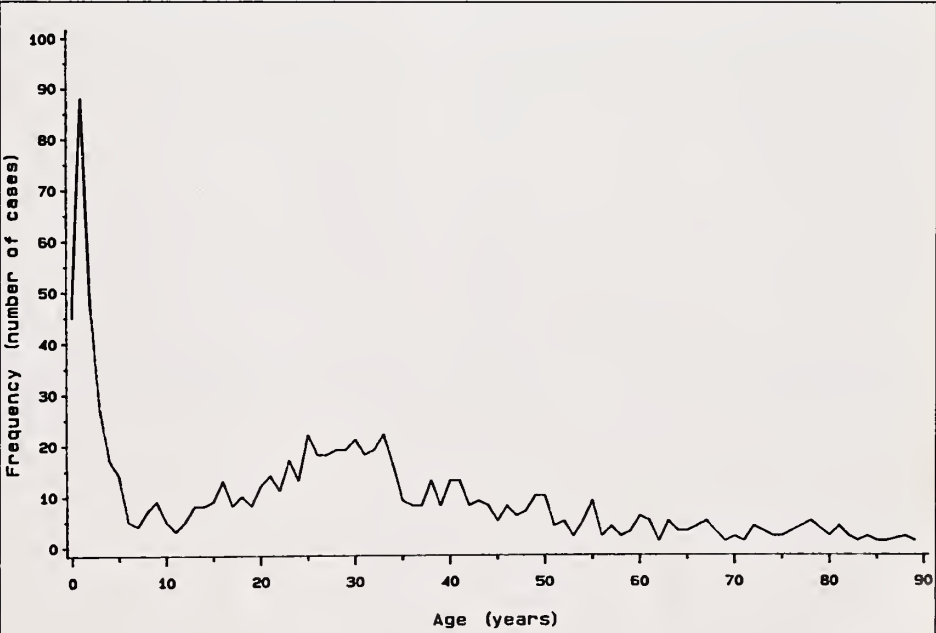
Comparisons between groups were made using Chi-squared tests, t-tests, one-way and two-way ANOVAs, Scatterplots and Pearson correlations. P-values < 0.05 were considered significant.

Results

A total of 844 persons with acute injuries were admitted to the GMH-BU between February 20, 1987, and July 13, 1990. Ages ranged from one month to 89 years (mean 25.5 years). Burn sizes ranged from 0 to 100% (mean 16.5%). There were 73% male patients, 59% Black. Fifty percent of burns were less than 10% TBSA and, 90% were less than 40% TBSA (Figure 1). The number of admissions as a function of age is represented in Figure 2. Scald burns accounted for one-third of admissions, with a peak incidence in infants and young children (Figure 3). Various burn types are characterized in Table 1. The most common burn type was flame, accounting for



Frequency of cases (left y-axis) and cumulative frequency (right y-axis) as a function of burn size (x-axis) based upon all admissions with a skin injury (TBSA>0). (n = 826)



Total number of admissions (y-axis) as a function of age in years (x-axis) for 826 patients with TBSA > 0, excluding 5 TEN cases.

48.5% of all admissions. Overall survival was 90.5%. Mean burn size for the 80 deaths was 55.6% TBSA.

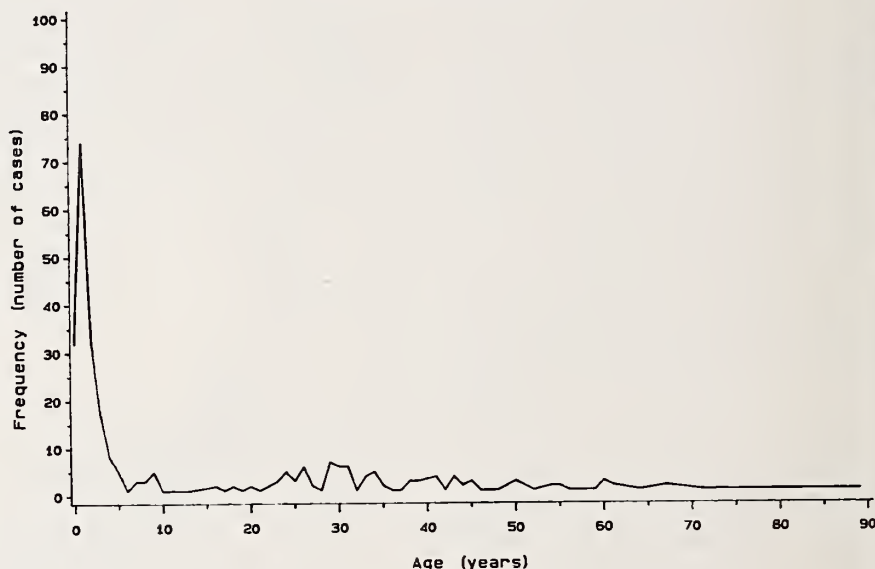
After lengthy discussion among patients, families, friends, and physicians, aggressive resuscitation

was not pursued in 16 patients with clearly fatal injuries (mean TBSA 73.1%, mean age 52.8 years). All of these patients died within 24 hours. A total of 88.8% of deaths were the result of a flame burn.

Fourteen male patients were admitted with hot tar injuries sustained while on the job. Thirteen persons without skin injury were admitted for electrical shocks ($n = 7$), suspected inhalation injury ($n = 3$), extensive first degree burns ($n = 2$), and painful hydrofluoric acid exposure ($n = 1$).

One hundred and twenty persons spent 24 hours or less in the GMH-BU, with 57 early deaths and 63 survivors. The survivors had a mean burn size of 3.3% TBSA (range 0–15% TBSA), many admitted for reasons other than their skin injury, i.e. suspicion of abuse/neglect, inability to care for oneself, homeless etc.

Scald Burns Only



Total number of admissions (y-axis) as a function of age in years (x-axis) for scald burns only.

TABLE 1 — 844 Acute Burn Admissions by Burn-Type

Burn Type	N	% Total	Mean Age (Years)	Mean TBSA (%)	Overall Survival (%)
Flame	409	48.5	32.3	23.2	82.9
Scald	297	35.3	16.6	10.9	97.6
Contact	46	5.5	18.9	5.8	97.8
Electric	46	5.5	25.8	6.8	97.8
Chemical	33	3.9	32.1	9.0	90.9
Tar	14	1.7	32.0	16.1	92.9
TEN	5	0.6	21.2	61.0	80
Steam	2	0.2	40.5	6.0	100
Total	844	100%	25.5	16.5	90.5

Patients displayed by burn type with frequencies, percentages of 844 admissions, mean ages, mean burn sizes, and survival rates.

After excluding those who were not aggressively resuscitated and allowed to die ($n = 16$), those without skin injury ($n = 13$), and those with toxic epidermal necrolysis (TEN) ($n = 5$), 810 patients with mean burn size of 15.3% TBSA remained for whom further analysis was done. Survival was 92.2% (747/810). Mean hospitalization time for survivors who remained in the GMH-BU until discharged to home was 16.1 days, or 1.3 days per percent

burn. Mean hospital length of stay as a function of burn size is shown in Figure 4.

If mean burn size, age, and survival are viewed on an academic yearly basis, no differences were noted (Table 2).

Survivals for the different age deciles as a function of burn size are displayed in Figure 5. There is a statistically significant decrease ($P < 0.0001$) in survival as age deciles increase. However, further

analysis of prognostic variables revealed that these same age groups differed significantly with respect to mean burn size ($P = .0122$) and incidence of concomitant inhalation injury ($P < .0001$).

The presence or absence of an inhalation injury is determined through the selective use of bronchoscopy, laryngoscopy, arterial blood gases to include carboxyhemoglobin levels, and the mechanical properties of the respira-

tory system in intubated patients. Those with orofacial burns, those involved in structural or closed spaced fires, or with bronchoscopic evidence of respiratory mucosal injuries (erythema, blisters, ulcers) are assumed to have an inhalation injury. Of the 810 patients defined above, 62 had proven inhalation injury and 474 did not. Sixty-one of 62 inhalation injuries resulted from a flame burn. Survival of those with inhalation injury was significantly worse than that of those without inhalation injury (55.2% vs. 98.1%) ($P < .0001$). There were other significant differences between these two groups. Those with inhalation injury were older ($P < .0001$) and had larger burns ($P < .0001$) than those without inhalation injury (Table 3). The incidence of inhalation injury as a function of burn size is shown in Figure 6.

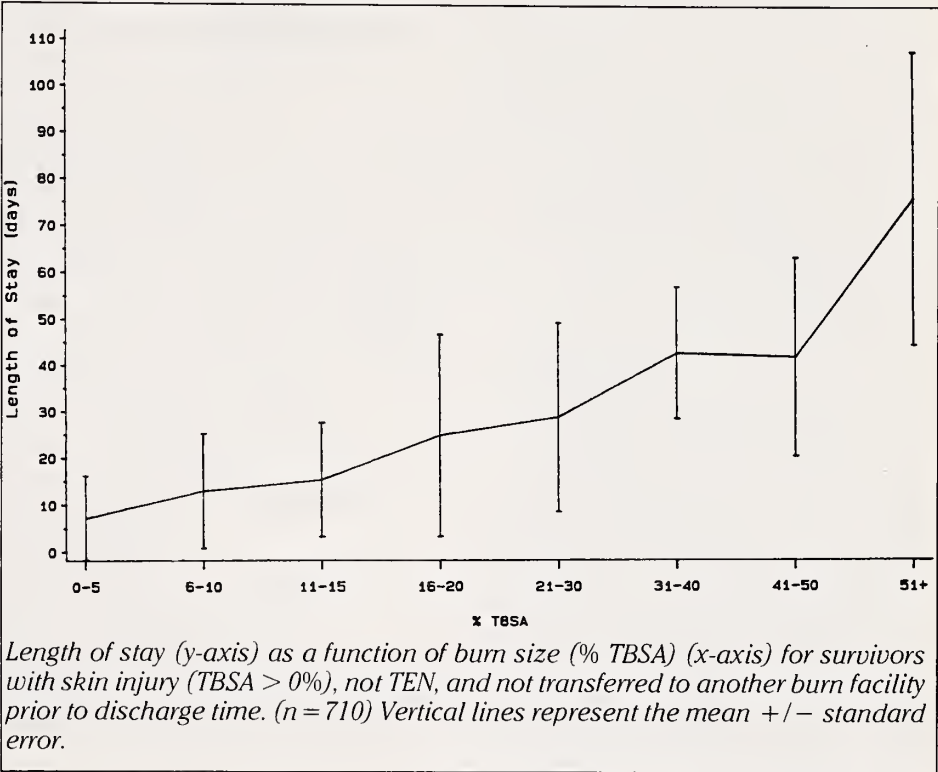


TABLE 2 — Burns by Academic Years (TBSA 0, not TEN, not allowed to die)

Year	N	Overall Survival (%)	Mean Age (yrs)	Age Range	Mean TBSA (%)	TBSA Range (%)
7/1/87-6/30/88	283	92.93	21.1	1 mo-86 yrs.	16.3	1-95
7/1/88-6/30/89	224	92.86	25.6	1 mo-89 yrs.	13.1	1-93
7/1/89-6/30/90	198	92.42	26.7	1 mo-88 yrs.	15.4	1-91
Total	705	92.76				

P = 0.976

Total numbers, overall survival, mean age and range, mean TBSA and range according to academic year. The P-value for survival comparison is noted below survival data.

TABLE 3 — Inhalation Injury

	With Inhalation Injury			Without Inhalation Injury		
	N	Mean Age (years)	Mean Burn Size (%TBSA)	N	Mean Age (years)	Mean Burn Size (%TBSA)
Survivors	33 (55.23%)	30.4	24.3	465 (98.10%)	19.4	9.4
Deaths	29	45.7	45.1	9	34.1	46.3
Overall	62	37.6	34	474	19.7	10.1

Survival, mortality, mean ages, and mean burn sizes according to the presence or absence of inhalation injury. Overall figures are noted in lowest column.

Discussion

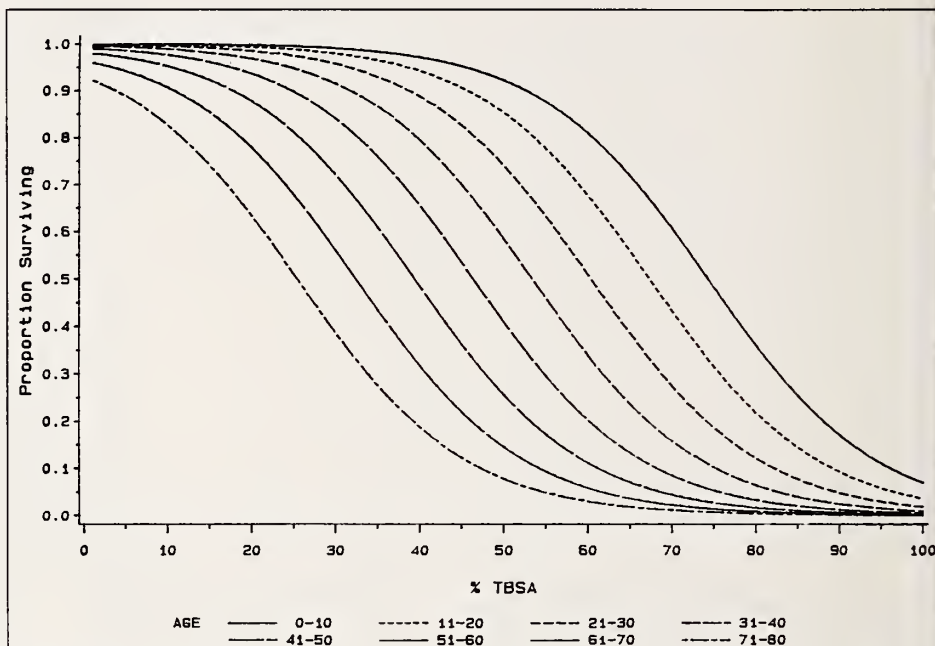
There are several statistical methodologies used in analyzing burn data. Probit analysis is the most commonly used statistical method to predict outcome, com-

pare different treatment modalities, identify variables which influence outcome, and provide a means of periodic self-assessment.^{5, 14} Many standard charts are available in the literature for comparison purposes.^{5, 6, 15-18} Other statistical means of analyzing burn data include logistic regression and analysis of variance (ANOVA).¹⁹

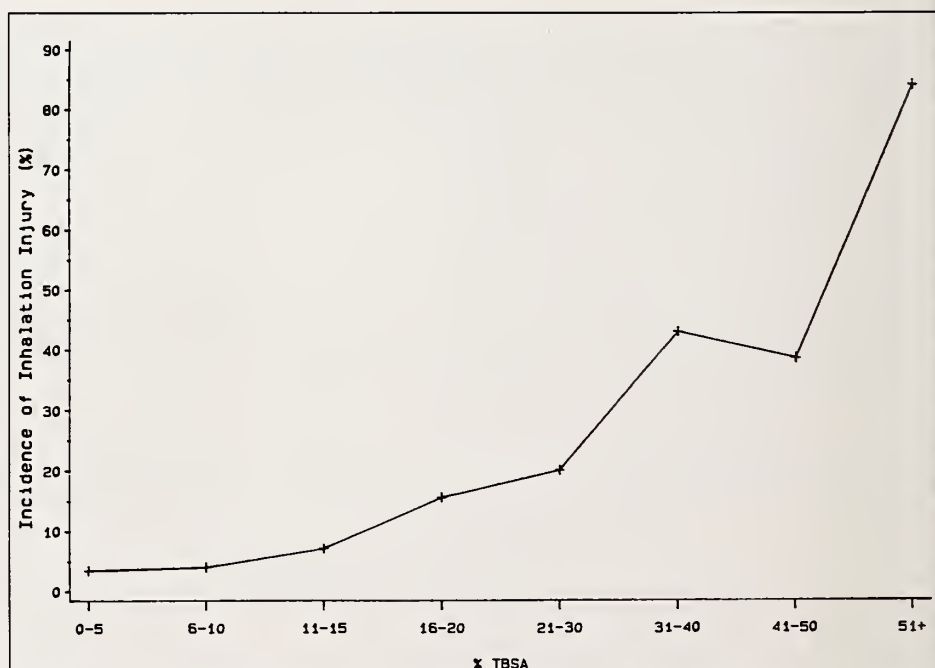
Analysis of burn data beginning in the 1960s reveals survival to be improving over time for all age groups.²⁰ The GMH-BU overall survival of 90.5% is competitive with reported burn survival rates exceeding 90% since 1980.^{20, 21} Our mean burn size (16.5%) falls within the reported range of 15 to 20%.^{21, 22} The predominance of small burns in our review concurs with reports from other burn centers.^{21, 23-25} The mean age of 25.5 years in this review falls into the reported range of 24.4 to 31 years.^{22, 23} The peak incidence of burns in young children due to scalds has also been described by others.¹² That young adult males comprised the largest burn group is typical.^{21, 24} Many report the most common burn type to be a flame burn,^{21, 24} as we have done.

Those patients with skin injury who survived stayed in the GMH-BU a mean of 16.1 days. Reported mean hospital lengths of stay range from 14.7 to 26.6 days.^{20, 22}

Of our 536 patients with proven inhalation injury status, 62 (11.5%) had inhalation injury, which corresponds with the reported overall incidence of inhalation injury of 7 to 35%.^{26, 27} We noted an increased incidence of inhalation injury as burn size increased, a finding shared in other institutions.^{7, 10} Thompson⁷ reported that inhalation injury was the most important variable in determining outcome. Shirani,²⁶ Thompson,⁷ Herndon,¹³ and Merrell,²⁰ reported on the adverse effects of inhalation injury on survival for all ages. We also found that inhalation injury influences



Proportion of patients surviving (y-axis) as a function of burn size (x-axis) according to eight age deciles. Curves are based upon cases with skin injury (TBSA > 0), excluding TENs, and excluding those allowed to die (n = 810).



Incidence of inhalation injury (y-axis) as a function of burn size (x-axis) groups, based upon those with a skin injury (TBSA > 0), excluding TENs (n = 826). Any burn size greater than 50% TBSA is included with the last group.

survival unfavorably. Since the variables of age, burn size, and incidence of inhalation injury all seem to vary in the same direction, it is difficult to separate the impact of

one variable from the other two. A co-dependence is demonstrated for which multiple epidemiologic causes are most likely responsible. The finding in this review that burn

size increases with age is difficult to explain.

Since 1970,²⁸ data have accumulated to suggest and prove that for certain defined subsets of burns, burn wound excision and closure by grafting be performed as quickly as possible. This concept applies to both young and elderly, stable and critically-ill, small burns and very large burns.^{12, 29-31} Sorenson,³² Engrav,³³ and Herndon¹³ have performed prospective randomized studies comparing early burn wound excision with autografting to less aggressive treatment modalities. For carefully defined groups of burn patients, the three investigators reported advantages in the groups undergoing early burn wound excision with grafting, including shorter hospital times, fewer complications, less time away from work, and lower mortality. Many nonrandomized reviews suggest the same favorable response to early aggressive burn wound closure.^{5, 7, 34, 35} The burn wound eschar has been shown to represent an inflammatory focus which releases many mediators contributing to the pathophysiologic derangements seen in burn victims.¹¹ Most burn physicians feel that prompt removal of this septic, inflammatory focus is the treatment of choice. For those patients who are candidates for early burn wound excision, this is begun within the first post-burn week.

Further study concerning the problems of burns in the elderly, abusive pediatric burns, and the treatment of inhalation injury is necessary. Hopefully, progress will continue in these areas.

Acknowledgements

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The burn wound eschar has been shown to represent an inflammatory focus which releases many mediators contributing to the pathophysiologic derangements seen in burn victims. Most burn physicians feel that prompt removal of this septic, inflammatory focus is the treatment of choice.

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HMSS Assembly Information Exchange
Thursday, June 20, 1991
7:00 p.m. - 8:30 p.m.

PRO and Managed Care Review: Combating the Hassle Factor

A distinguished panel to include Alice G. Gosfield, JD, Alice G. Gosfield and Associates, Philadelphia; T. Reginald Harris, MD, AMA Council on Medical Service; and Bob Becker, MD, American Medical Care Review Association, Washington, DC., will be available to provide the most recent activities and advancements made in dealing with the hassle factor of interaction with regulatory systems and managed care companies.

Following the presentations, a 45-minute question-and-answer period will permit medical staff participants to offer questions regarding their day-to-day interactions with medical review organizations, and ideas for combating the hassle factor.

Assembly Education Program
Friday, June 21, 1991
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Part 1: Update on JCAHO: The AMA Perspective

AMA JCAHO Board of Commissioners will bring HMSS Representatives up to date on their interactions and initiatives with the JCAHO, undertaken in the interest of medical staffs.

Part 2: Practice Parameters: Policy, Applications and Issues

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A question-and-answer session will be provided after each panel discussion.

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HMSS

Triple Synchronous Primary Lung Carcinomas Treated with Simultaneous Resection

Martin L. Dalton, M.D., Robert L. Warner, M.D.

Abstract

The fifth case of surgical treatment for three primary bronchogenic lung cancers is presented. This is the second successful surgical case in which this occurred bilaterally and the first case in which simultaneous resection via median sternotomy for three separate primary bronchogenic carcinomas was performed. We strongly advocate this approach when feasible.

FOR MANY YEARS, it has been recognized that metachronous lung carcinomas represent an increasingly frequent cause of morbidity and mortality in long-term survivors following pulmonary resection for lung cancer. However, it has only been recently noted that synchronous primary lung cancer is increasing in frequency. In a report by Sugimura et al.,¹ synchronous lung cancers comprised over 2% of their series between 1965 and 1985. McElvaney et al.² reported that 19% of their patients resected for bronchogenic adenocarcinoma were found to have two or more adenocarcinomas on careful pathologic examination. In our institution over the past 5 years, 3.5% of pulmonary resections for primary lung cancer were for synchronous lesions. The finding of three primary lung cancers presenting bilaterally and their

subsequent resection formed the basis of this report.

Case Report

J. W., a 62-year-old white man, was admitted to the Jackson V.A. Medical Center with a history of pulmonary tuberculosis in 1981. He had a history of greater than 50 years of cigarette smoking and continued to smoke at the time of admission.

Dr. Dalton was formerly Professor of Surgery, University of Mississippi Medical Center, Chief of Surgery, V.A. Medical Center, Jackson, MS; Dr. Warner is Chief Resident, Thoracic and Cardiovascular Surgery, University of Mississippi Medical Center, Jackson, MS. Send reprint requests to Dr. Dalton, Department of Surgery, Mercer University School of Medicine, Medical Center of Central Georgia, 777 Hemlock St., Macon, GA 31208.

He had a history of peptic ulcer disease in 1966. Liver enzymes were elevated on admission due to alcoholism but reverted to normal preoperatively. This admission was precipitated by the finding

of an irregular mass at the left apex of his lung on routine chest x-ray (Figure 1). He denied pulmonary complaints.

CT-chest scan revealed additional nodules in the lingula of the left upper lobe (Figure 2) and in the posterior segment of the right upper lobe (Figure 3). The FEV₁ was 2.88, and EKG was normal. The remainder of the preoperative work-up was within normal limits.

On February 10, 1989, via median sternotomy, generous wedge resections of the apical lesion and the lingula lesion of the left upper lobe were performed. There were no identifiable regional lymph nodes. Attention was then directed to the

right hemithorax where the upper lobe nodule was removed by wedge resection. There were no palpable or visible lymph nodes on the right side. Pathologic examination confirmed our preoperative suspicion of three separate synchronous primary bronchogenic carcinomas. The largest mass and the only one identified on the initial chest x-ray proved to be a scar adenocarcinoma of the apex of the left upper lobe (Figure 4). The left upper lobe lingula lesion was a squamous cell carcinoma (Figure 5), and the right upper lobe lesion was an adenocarcinoma (Figure 6). The patient tolerated the procedure quite well and was dismissed on the tenth postoperative day. Follow up extends to 20 months at present, without evidence of recurrence.

Discussion

Newman and Adkins in 1958³ reported the first case of surgical resection for synchronous triple primary lung cancer. Their patient, a 62-year-old white man, had a left lower lobectomy and within this lobe there were three primary carcinomas including a squamous cell carcinoma, adenocarcinoma, and an oat cell carcinoma. The patient died of distal metastases 4 months postoperatively.

The second patient treated by resection was reported by Ranchod and Levine in 1980.⁴ This patient was a 65-year-old woman. She had a left upper lobectomy and was found to have a carcinoid, an adeno-squamous carcinoma, and a broncho-alveolar carcinoma all within the left upper lobe. This patient was doing well at the time of reporting 2½ years postoperatively.

The third patient treated surgically was reported by Jung-Legg in 1986.⁵ This patient, a 49-year-old black man, received a right upper lobectomy and right middle lobectomy. The right upper lobe con-



Figure 1. Erect PA Chest x-ray demonstrating the irregular left upper lobe apical mass.

tained a carcinoid tumor and a peripheral small cell carcinoma. The right middle lobe contained an adenocarcinoma. The patient died of metastatic disease 1 year postoperatively.

The fourth surgically treated patient was reported by Paul and Bacharach in 1987.⁶ This patient, a 66-year-old white woman, was the first resected patient who presented with bilateral synchronous tumors. Staged left and then right thoracotomies were employed. At the time of left thoracotomy, a scar carcinoma was resected from the left upper lobe. Several weeks later, a right lower lobectomy was per-

formed with the findings of a poorly differentiated adenocarcinoma and a "poorly differentiated bronchogenic carcinoma" in the right lower lobe.

This patient had postoperative x-ray therapy and died 2 months following the second thoracotomy. According to Paul and Bacharach, their patient was the "first case with three synchronous primary bronchogenic carcinomas treated surgically which involved both lungs."⁶ According to our literature search, this is correct and would make the present case the second patient resected with involvement of both lungs and the first patient resected

The principal problem with multiple pulmonary resections is the presence of limited pulmonary function. Frequently, only lesser resections can be safely tolerated.

using simultaneous resection via median sternotomy.

The resourcefulness of median sternotomy for the management of bilateral pulmonary lesions has been well documented.⁷ It is expeditious, effective, and causes much less pain and disability than staged thoracotomies. The simultaneous procedure also allows for the beginning of adjuvant chemotherapy or x-ray therapy in a much more timely fashion. Our experience with an increasing number of multiple synchronous lung cancers parallels that of others. One reason may be that in our University-affiliated V.A. Medical Center, we are treating a population composed primarily of aging male smokers. Undoubtedly, an additional and perhaps more valid reason is the near routine use of CT chest scan in patients with pulmonary lesions on chest x-ray.

Once synchronous lesions are found, therapy must be highly individualized for each patient. We have found bilateral resection via median sternotomy to be quite effective in the patient with absent nodal metastases. In those with nodal metastases on CT, we proceed as we would with a single primary lesion using mediastinoscopy or mediastinotomy for tissue diagnosis and staging.

The principal problem with multiple pulmonary resections is the

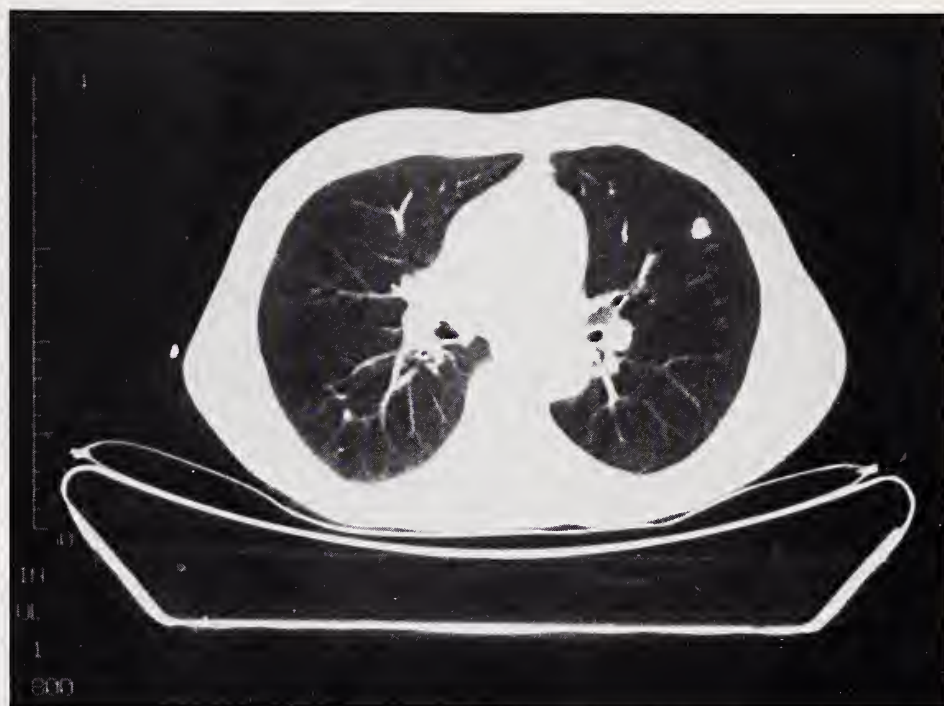


Figure 2. CT scan demonstrating a 1cm nodule in the lingula segment of the left upper lobe.

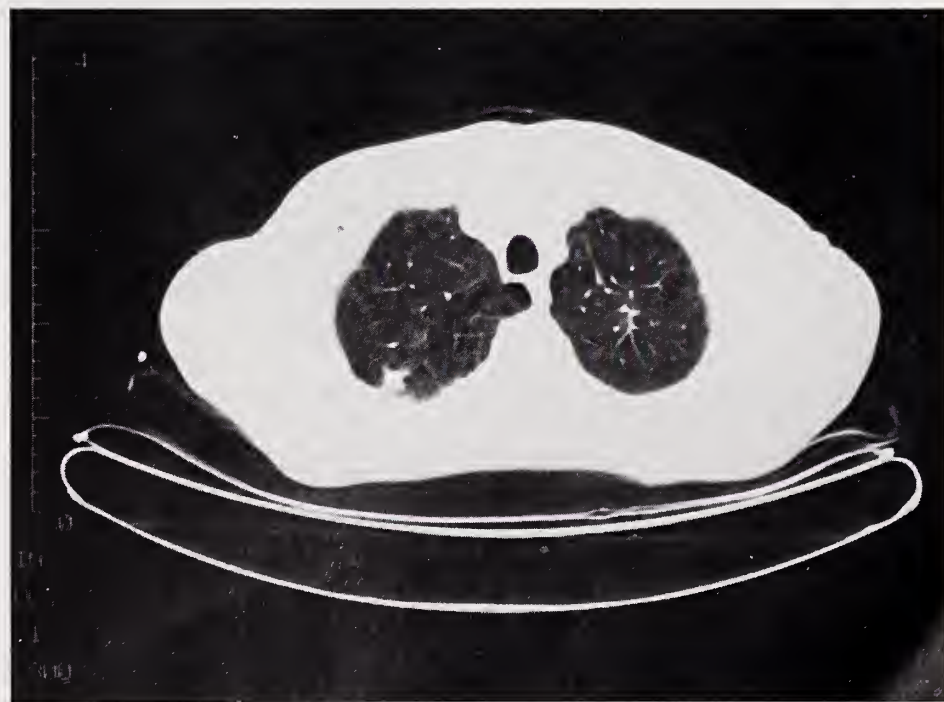


Figure 3. CT demonstrating a 1.5 cm irregular mass in the posterior segment of the right upper lobe.

presence of limited pulmonary function. Frequently, only lesser resections (wedge or segmentectomy) can be safely tolerated. Fortunately, there is a growing body of

evidence demonstrating that wedge resection in the absence of regional nodes is as effective a lobectomy.⁸ In addition to precise preoperative pulmonary function studies, we fre-

The resourcefulness of median sternotomy for the management of bilateral pulmonary lesions has been well documented. It is expeditious, effective, and causes much less pain and disability than staged thoracotomies.

quently obtain a split crystal lung function study to ascertain the degree of function contributed by each lung. We have found this to be very helpful in planning resectional therapy for this challenging group of patients.

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Figure 6. Histologic section of right upper lobe lesion featuring infiltrating anaplastic epithelial type cells with gland formation consistent with adenocarcinoma. H&E \times 200.

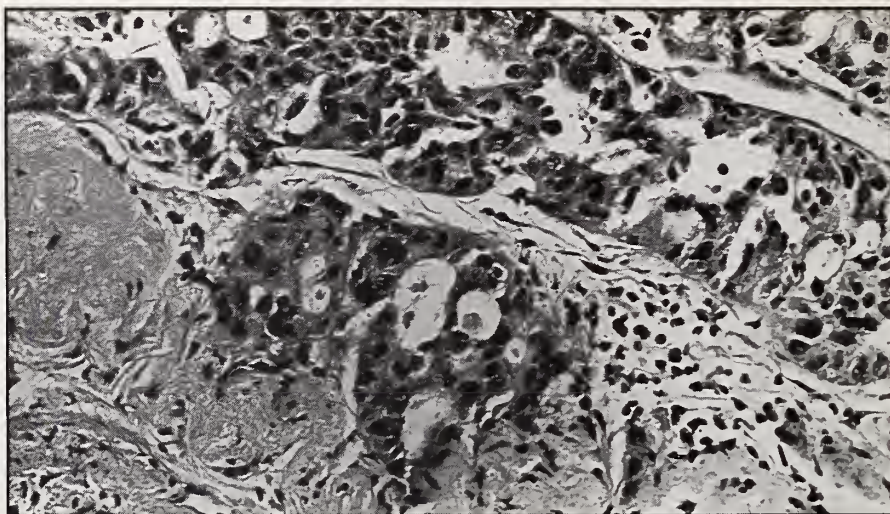


Figure 4. Histologic section of left upper lobe apical lesion featuring infiltrating anaplastic epithelial type cells with gland formation consistent with adenocarcinoma. H&E \times 200.

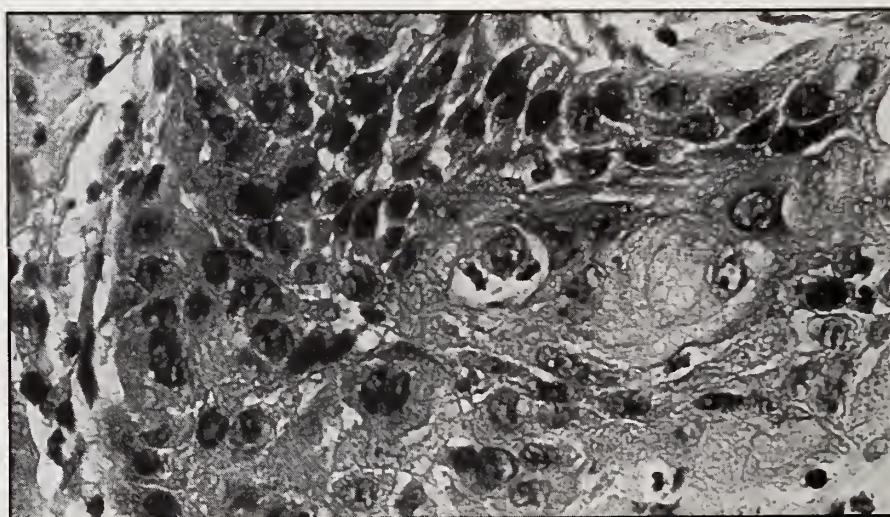
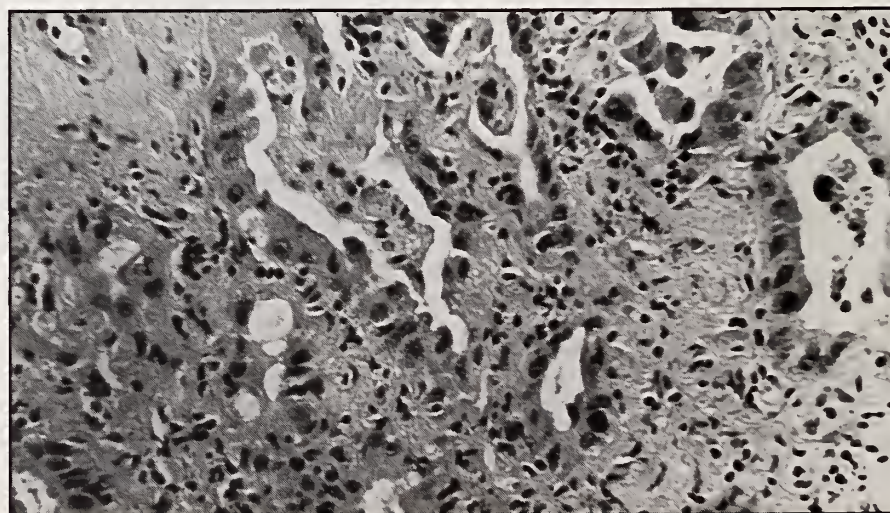


Figure 5. Histologic section of left upper lobe lingula lesion featuring infiltrating large anaplastic epithelial type cells with squamous differentiation including intercellular bridge formation consistent with squamous cell carcinoma. H&E \times 400.



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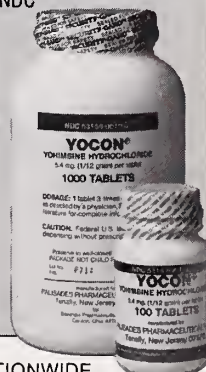
Dosage and Administration: Experimental dosage reported in treatment of erectile impotence.^{1,3,4} 1 tablet (5.4 mg) 3 times a day, to adult males taken orally. Occasional side effects reported with this dosage are nausea, dizziness or nervousness. In the event of side effects dosage to be reduced to 1/2 tablet 3 times a day, followed by gradual increases to 1 tablet 3 times a day. Reported therapy not more than 10 weeks.³

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Parental Requests for Drug Testing on Minors

Susan Cowan Atkinson, Marilyn J. Allen

MRS. X, a concerned mother, brings her 15-year-old child to a physician and requests that the physician perform drug testing on the child. The minor objects strongly to any testing, leaving the physician caught in the middle of a family conflict and wondering whether he or she should perform the test over the minor's objection. The rights and obligations of parents and minors to consent or withhold consent to drug testing and treatment form the subject of this month's Legal Page.

Background

The age of legal majority in Georgia is 18, prior to which all persons are minors.¹ Under Georgia law, minors are under the legal control of their parents, and parents have a legal duty to support their minor children. Part of this obligation of support includes the obligation to insure that minor children receive appropriate medical care.² Although Georgia law provides that a physician may not perform a medical procedure without first obtaining consent from the patient,³ parents of minor children are empowered under Georgia law to consent on behalf of the minor,⁴ thus facilitating the parents' duty to insure appropriate medical treatment. Conversely, consent given by a minor for medical treatment (with certain exceptions) is generally considered void.⁵

Parental rights, including the right to consent to medical treatment, may be lost under certain circum-

‘Whenever possible, the physician should encourage open communication between the parent and the minor in order to address the concerns of all parties.’

stances. For example, a minor who enters into a lawful marriage is automatically emancipated under Georgia law. Parental power may also be lost by entry into a voluntary contract releasing rights to a third party; by consent to the adoption of the child; by failure to provide necessities for the child; or as a result of abandonment or cruel treatment of the child.⁶ In such situations, the power of the parent to consent to medical treatment on behalf of the minor may be lost; therefore, in case of dispute, physicians would be well-advised to ask both the minor and the parent whether such parental authority is still valid before proceeding with any medical treatment of a minor.

This article was prepared at the request of the *Journal*. Ms. Atkinson is an associate in the law firm of Vincent, Chorey, Taylor & Feil, Suite 1700, The Lenox Building, 3399 Peachtree Road, NE, Atlanta, Georgia 30326. Ms. Allen is a corporate attorney with MAG Mutual Insurance Company. Send reprint requests to Ms. Atkinson.

Treatment for Drug Abuse

In the area of treatment for drug abuse, the Georgia legislature has deviated somewhat from the "only parents may consent" model. O.C.G.A. §37-7-8 provides that a minor has the right to obtain medical or surgical services for treatment of drug abuse upon the giving of his or her consent alone. Such consent shall be "as valid and binding as if the minor had achieved his majority . . . [and] shall not be subject to later disaffirmance by reason of minority."⁷ Furthermore, a minor need not obtain the consent of a parent in order to obtain such treatment:

The consent of no other person or persons, including but not limited to a spouse, parent, custodian, or guardian, shall be necessary in order to authorize the provision to such minor of such medical or surgical care or services [for treatment of drug abuse]. . . .⁸

In seeking such treatment for drug abuse, however, a minor is not insured of total confidentiality. The role of the parent in medical decisions involving the minor is somewhat preserved by the inclusion of statutory language that

upon the advice and direction of a treating physician . . . , a member of the medical staff of a hospital or public clinic or a physician . . . may, but shall not be obligated to, inform the spouse, parent, custodian, or guardian of any minor as to the treatment given or needed. Such informa-

tion may be given to or withheld from the spouse, parent, custodian or guardian without the consent of the minor patient and even over the express refusal of the minor patient to the providing of such information.⁹

This Code section does not provide an absolute right to parents to have access to this information; rather, the decision to involve parents is left to the discretion of the treating physician. Similarly, the federal law and regulations provide that if state law does not require parental consent for treatment (as in Georgia), records of treatment may only be disclosed without the minor's consent upon a determination that

(1) *[The minor] lacks capacity because of extreme youth or mental or physical condition to make a rational decision on whether to consent to a disclosure ... to his or her parent, guardian, or other person authorized under State law to act in the minor's behalf, and*

(2) *[The minor's] situation poses a substantial threat to the life or physical well being of the [minor] or any other individual which may be reduced by communicating relevant facts to the minor's parent, guardian, or other person authorized under State law to act in the minor's behalf.*¹⁰

Drug Testing

These special rules for the disclosure of treatment for drug abuse by a minor to the minor's parents do not, however, specifically address the situation set forth in the hypothetical example above. Obviously, a physician may choose to inform a parent about the results of a drug test performed on a minor, even where the minor objects to the

‘Under Georgia law, a parent can validly consent to drug testing for a minor, even in the face of the minor’s objection.’

providing of such information. But can a parent validly consent to drug testing for the minor even in the face of the minor's objection?

In providing that a parent is empowered to consent on behalf of a minor child, the Georgia Code states that such power is given to parents "in addition to such other persons as may be authorized and empowered"¹¹ to give consent. In the case of drug testing, "such other persons" obviously include the minor authorized to consent on his or her own behalf; thus both the minor and the parent are empowered to consent.

Georgia law also contains the general rule that "a consent by one person authorized and empowered to consent to surgical or medical treatment shall be sufficient."¹² In the hypothetical example, the "one person authorized and empowered to consent" could be either the parent or the child, and the consent of one or the other is legally sufficient. Therefore, the answer to the question posed above is "yes." Under Georgia law, a parent can validly consent to drug testing for a minor, even in the face of the minor's objection.

There is, of course, a difference between parental *consent* to medical treatment and a parental *demand* for medical treatment. Ob-

viously, no physician should ever order any medical procedure or test on a patient if he or she does not believe that such is medically indicated. However, where drug testing is indicated, a physician may perform such testing upon receiving consent from *either* the parent or the minor.

Conclusion

With few exceptions, minors do not have any legal right to refuse recommended medical or surgical treatment for which a parent has given consent. Although Georgia law does not specifically forbid drug testing of a minor who objects to such testing where the parent has consented, the physician may wish to consider a more conciliatory approach in order to preserve the physician/patient relationship. Whenever possible, the physician should encourage open communication between the parent and the minor in order to address the concerns of all parties. In those cases where a direct communicative approach does not provide a solution, however, the physician must ultimately decide between ordering the test against the wishes of the minor patient and referring the parent to other available drug screening programs.

Notes

1. O.C.G.A. §39-1-1.
2. O.C.G.A. §19-7-2.
3. O.C.G.A. §31-9-2 (1); O.C.G.A. §31-9-6.
4. O.C.G.A. §31-9-3 (2). A parent may consent for his or her minor child even if the parent is also a minor.
5. O.C.G.A. §31-9-7.
6. O.C.G.A. §19-7-1.
7. O.C.G.A. §37-7-8 (b).
8. *Id.*
9. O.C.G.A. §37-7-8 (c) (emphasis supplied).
10. 42 U.S.C. §290ee-3; 42 C.F.R. §2.14.
11. O.C.G.A. §31-9-2 (a).
12. O.C.G.A. §31-9-6 (b).

Drug Therapy in Cancer Pain

Rudolph H. de Jong, M.D.

MOST PATIENTS with primary cancer will suffer pain at some time (estimated¹ at 50-80%). In many, pain is the presenting symptom; in others, pain may not occur until late. And cancer treatment itself may have immediate or delayed painful aftereffects. Analgesic drugs are the mainstay in managing cancer pain when alternate measures (surgery, radiation, chemotherapy, nerve blocks, or steroids) have been exhausted.^{1,2}

Woven through this "Cancer Section" are two themes: a) Cancer pain is underestimated or undertreated or (commonly) both, and b) undertreatment of cancer pain occurs because of our ingrained concern with iatrogenic addiction or fear of regulatory agency repercussions, or (commonly) both.

Public perception associates the diagnosis of cancer with pain and suffering. There may well be some basis for this perception, for cancer pain is all too often undertreated. Complete freedom from cancer pain may be an elusive goal without substantial reduction in pain intensity, and increased functionality, need not be. A practical concept is the three-step "analgesic ladder" promulgated by the World Health Organization's (WHO) Cancer Pain Relief Program.³

The first step on the ladder is nonopioid analgesics: nonsteroidal anti-inflammatory agents (NSAID) plus adjuvant or co-analgesic drugs. The analgesia offered by these drugs

‘A practical concept in cancer pain therapy is the 3-step “analgesic ladder” promulgated by the World Health Organization’s Cancer Pain Relief Program.’

is limited by their ceiling effect — higher doses will not raise the pain threshold — calling for the next step. In Step II, "weak" opioids such as codeine or oxycodone are added or substituted, often in the form of fixed combinations such as Percodan® or Tylenol #3®. As pain persists, becomes refractory, or escalates, the third and final step on the ladder is "strong" opioids such as morphine or methadone, often with nonopioids and adjuvant drugs.⁴

STEP I: Nonopioid Analgesics

These comprise acetaminophen (Tylenol®) and the non-steroidal anti-inflammatory agents (NSAID) such as aspirin or ibuprofen; they provide mild to moderate analgesia, limited by a ceiling effect. Advantages of NSAID are lack of CNS effects, habituation, or respiratory

depression as seen with opiate therapy. NSAID are useful in the early stages of cancer pain as well as in managing metastatic bone pain where inhibition of prostaglandin synthesis reduces pain from osteolytic and osteoclastic action. Acetaminophen is both antipyretic and analgesic, but only weakly anti-inflammatory, causes less gastric irritation, but has greater potential for hepato-renal toxicity. It is commonly used in fixed combination with "weak" narcotics (eg, Percocet® or Tylenol #3®).

Reduction of prostaglandin biosynthesis (by inhibiting cyclo-oxygenase) reduces inflammation and sensitization of peripheral nociceptors, but it thins the protective coating of the gastric mucosa and inhibits platelet aggregation. While the side effects of NSAID can be bothersome or annoying, seldom are they serious. In a debilitated cancer patient, however, even the bothersome may become worrisome because of compromised ability for healing and reduced resistance to bleeding.

Peripheral soft and hard tissue pain often can be managed adequately with NSAID alone or with NSAID plus weak opioid. Visceral pain, conversely, is poorly controlled by non-opioid analgesics, as is deafferentation pain. Most NSAID are strongly protein-bound, possibly displacing other similarly bound drugs such as oral hypoglycemics, methotrexate, or warfarin. Individual variations in analgesia and side

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effects of these drugs are such that substitution may be rewarding, even within the same drug class (eg, ibuprofen versus ketoprofen). Ready availability, low cost, and absence of regulatory control make NSAID useful primary or opiate-adjunct analgesic drugs.

STEP II: Weak Opioid (plus Non-Opioid)

When more potent analgesia than can be achieved with NSAID is required, the next step is to turn to the "weak" opioids. Commonly used in a fixed ratio oral formulation with NSAID, these opioids can also be given singly when NSAID are poorly tolerated. The term "weak opioid" is a misnomer for, in sufficient dose, they have the same spectrum of pharmacologic actions as morphine.

Widely used weak opioids are codeine, oxycodone, hydrocodone, and propoxyphene (Darvon®). Combinations of codeine or oxycodone with NSAID are quite effective because of dual central (opioid receptor) and peripheral (prostaglandin synthesis inhibition) action. Fixed combinations such as Percodan® (5 mg oxycodone plus 325 mg aspirin) or Tylenol #3® (30 mg codeine plus 300 mg acetaminophen) are representative of this class. While propoxyphene finds considerable use in managing acute pain, long half life and slowly excreted CNS-toxic metabolite (nor-propoxyphene) make it a less desirable choice for chronic cancer pain.

The NSAID component of a fixed drug combination provides adjunct analgesic and lessens the chance of over-use or diversion, but it constrains flexible dosing. When pain requires NSAID doses approaching daily toxic limits (eg, 2600 mg acetaminophen), separate prescriptions of weak opioid and NSAID may yet delay recourse to strong step III opioids.

‘Woven through this article are two themes: Cancer pain is underestimated and/or undertreated, and undertreatment of cancer pain occurs because of our ingrained concern with iatrogenic addiction and/or fear of regulatory agency repercussions.’

STEP III: Strong Opioid (plus Co-analgesic)

This final step on the WHO analgesic ladder is reserved for cancer patients with severe pain, escalating beyond the more limited potency of the weak opioids. Differentiation of acute from chronic (cancer) pain deserves reemphasis. Relief of acute (surgical, traumatic) pain can be achieved with a wide spectrum of analgesic drugs, including strong opioids, in opioid-naïve patients. Cancer patients, conversely, upon reaching Step III already have been exposed to opioids during Step II. Thus, mixed agonist-antagonist opioids such as pentazocine (Talwin®) or nalbuphine (Nubain®), and partial agonists such as buprenorphine (Buprenex®), could precipitate with withdrawal symptoms.

These drugs have other undesirable properties such as psychotomimetic reactions after prolonged use and, with the exception of pentazocine, do not offer an oral dosage form. In general then, mixed agonist-antagonist or partial agonist opioids are not advocated for

cancer pain.^{1, 4} Meperidine (Demerol®), similarly, is not favored for cancer pain management because of short analgesic duration, high IM/oral ratio, and potential for accumulation of the neurotoxic metabolite nor-meperidine.⁵

Of the pure agonists listed in Table 1, morphine is considered the mainstay, but with effective alternatives available. Oral administration of morphine, long a compliance problem because of short duration of action (3-4 hrs), has become more acceptable now that slow release long acting (eg, MS-Contin® or Roxamol-SR®) tablets are available, requiring only b.i.d. or t.i.d. dosing. Opioid receptor tolerance develops with time; sometimes it is difficult to tell whether increasing dose requirement heralds tolerance, tumor extension, or both.

Hydromorphone (Dilaudid®), a morphine congener, is some 6 times more potent than morphine, more water-soluble, and has a plasma half-life shorter than its analgesic duration. Hydromorphone thus is a convenient alternative when administration routes other than oral (eg, subcutaneous infusion) become necessary. Its oral potency is fair, with a five-fold greater dose required than with the systemic route. Short duration of action makes chronic oral administration impractical; by the same token, oral hydromorphone is an excellent choice for managing breakthrough pain. An unfortunate stigma of hydromorphone is its high abuse potential.

Methadone (Dolophine®) has a half-life longer than its analgesic duration so that drug accumulation after oral dosing requires monitoring for several days until patient response is stabilized. The long half-life similarly makes rapid (ie, daily) dose adjustment difficult. Nevertheless, methadone's high IM/IV to oral potency factor of 2 makes it a sound

TABLE 1 — Potent Narcotic Agonists for Severe Cancer Pain (Systemic IM/IV/SQ Administration in Adults)

<i>Analgesic Drug (trade name)</i>	<i>IM Equivalent (mg)</i>	<i>Initial IM Dose (mg)</i>	<i>IM Duration (hours)</i>	<i>IV/SQ Infusion (mg/hr)</i>	<i>Comments and Cautions</i>
morphine	10	8-20	3-4	2 and up	Lower doses for elderly or hepato-renal dysfunction; may depress respiratory rate and volume; caution with asthma; good IV titration drug; euphoria or confusion; constipation
hydromorphone (Dilaudid)	1.5	1-2	3-4	0.25 and up	Rapid onset, potency and high solubility make good choice for SQ infusion — see morphine
methadone (Dolophine)	10	5-15	5-6	not advisable (see comments)	Long duration and half life make oral dose preferable for long-term systemic therapy
levorphanol (Levo-Dromoran)	2	2-4	5	insufficient information	see methadone
meperidine (Demerol)	75	50-100	3	not advisable (see comments)	CNS-toxic metabolite accumulates; not advised for long-term cancer pain therapy

choice for oral administration. Methadone is said to give less of a "high" than does morphine, hence its use in drug maintenance programs.

Levorphanol (LevoDromoran®) is another potent morphine congener, with potency comparable to that of hydromorphone. Its advantage is high bio-availability when taken orally, with an IM/oral conversion factor of just 2. Its disadvantage is long half life so that, as with methadone, the drug can accumulate over time, requiring monitoring at initiation of therapy.

As in Steps I and II, co-administration of an NSAID with opioid offers additional relief (especially when bone and soft tissue are affected). Note that opioid requirement increases with time both because of receptor accommodation (tolerance) and of tumor expansion or spread. Indicators for raising the daily maintenance dose are increasing resort to rescue doses and shortened inter-dose painfree interval.

Side Effects

Constipation is almost a given

when using an opioid. A stool softener such as docusate (Colace®), bulk-forming diet (bran), or laxative such as bisacodyl (Dulcolax®) or lactulose (Chronulac®) should be started early and continued throughout opioid therapy with the goal of one bowel movement every 2 to 3 days.⁶ If not, abdominal distention and, ultimately, megacolon or even bowel obstruction may be the result.

Fear of respiratory depression from opioids is prevalent, but tolerance occurs rapidly so that respiratory center effects cease to be a threat with continued use. Level of alertness is a simple gauge of central effect (including respiratory drive): increasing somnolence is a warning sign to decrease opioid dosage.⁷

Should respiratory depression occur, an opioid antagonist such as naloxone (Narcan®) may be given IV. Since patients on chronic opioid medication are quite sensitive to reversal, and since the antagonist also reverses the analgesic effect (precipitating a drug withdrawal crisis), it should be diluted and titrated until the patient arouses and in-

creases respiratory rate. The half-life of naloxone is shorter than that of the opioid agonist, so that it may need to be repeated.

Be on the alert for central and respiratory depression when tumor therapy reduces the need for opioids, for the patient may receive a relative overdose beyond the (newly lowered) analgesic requirement. Reducing the opioid dose concomitant with effective therapy minimizes that risk, leaving sufficient time to ratchet the opioid dose down to comfort level.

Nausea may occur with initial opioid therapy, although tolerance usually soon develops. Antiemetic therapy with oral prochlorperazine (Compazine®), metoclopramide (Reglan®) or trimethobenzamide (Tigan®) usually is effective. If vomiting accompanies the nausea, these agents can be given by suppository or, if need be, by injection.⁸ Tigan® suppositories (200 mg) b.i.d. or t.i.d. seem quite effective when nausea accompanies IV morphine titration.

Route of Administration

The oral route (Table 2) of analgesic administration is preferred.

TABLE 2 — Potent Narcotic Agonists for Severe Cancer Pain (long-term oral therapy in adults)

<i>Analgesic Drug (trade name)</i>	<i>Oral Equivalent¹ (mg)</i>	<i>Initial Oral Dose (mg)</i>	<i>Duration (hours)</i>	<i>IM/Oral Potency²</i>	<i>Comments and Cautions</i>
morphine tablets (15 or 30 mg)	30-60	15-30	3-4	3 to 6	Variable GI absorption and first pass metabolism. Use IM/oral potency ratio of 3 at first; be prepared to increase dose so as not to undermedicate, especially with slow release. Oral tablets useful as rescue dose alongside extended release form.
morphine solution	30-60	20 (2 or 4 mg/ml)	3-4		
morphine solution (Roxanol)	30-60	20 (20 mg/ml)	4	3 to 6	
morphine extended release (MS-Contin; Roxanol-SR)	30-60	30-60 and up	8-12	3 to 6	Tolerance and tumor expansion. Extended release tablet allows sleep.
morphine suppository (5, 10, or 20 mg)	30-60	20 ³ (rectal)	3-4	3 to 6	Good alternate for oral route; careful in infection-prone patients.
hydromorphone Dilaudid tablets (2 or 4 mg)	4-8	4	3-4	5	High dependency, so perhaps reserve for terminal stages. Good for rescue dosing in breakthrough pain.
Dilaudid suppository (3 mg)	3-6	3 ³ (rectal)	4	5	see comments above
methadone Dolophine tablets (5, 10, or 40 mg)	20	5-15	5-6	2	Good bioavailability. Half life exceeds analgesic duration, so may accumulate. Good maintenance drug once titrated. Use morphine or hydromorphone for rescue dose.
methadone solution (1, 2, or 10 mg/ml)	20	5-15	5-6	2	Solution colored & flavored.
oxymorphone Numorphan suppository (5 mg)	NA	NA	3-4	NA	5 mg suppository equivalent to 10 mg morphine IM.
levorphanol Levo-Dromoran tablets (2 mg)	4	4-6	5	2	Good bioavailability. Cumulative effects require supervised initial titration (see methadone); consider short half-life opioid (morphine or hydromorphone) for rescue dose or breakthrough pain.

¹Oral equivalent to 10 mg morphine given IM²Ratio of oral dose equivalence to systemic dose. The lower the number, the greater the bioavailability.³Rectal dose probably similar to oral.

IM injection is painful, especially if tissue loss has occurred, and absorption may be erratic when perfusion is poor. The IV route circumvents some of these problems, but venous access may be difficult when sclerosing chemotherapeutic agents have been used. The IV or IM routes thus are best reserved when alternate options are eliminated.

Important by any route, but especially the oral one, is around-the-clock (time-contingent) administration rather than pain-contingent

(prn) use. Maintenance of a steady drug blood level is critical to ensure consistent pain relief. With sustained release morphine now available, twice a day dosing with 12-hour release tablets can be achieved. In some patients with very high analgesic requirements, a smaller mid-day dose may be required additionally. Useful practice is to give more than half the calculated daily dose at bedtime to assure a sound night's rest, and correspondingly less in the morning to

minimize daytime sedation.

Systemic-to-oral conversion factors quoted for morphine vary from 3 to 6.^{2, 4, 7} That latitude appears to be related to dosage form, acuity of pain, drug absorption, and receptor adaptation. View the 3-to-1 ratio as an initial departure point for shifting from IV to oral dose titration. Incremental daily dose increases are then prescribed until comfort is attained.

Methadone and levorphanol both have high oral bio-availability and

long duration of action in their favor. But their plasma half-life outlasts duration of analgesia so that drug levels (and with them CNS and respiratory side effects) can creep up if not watched. Since their administration requires more frequent initial checking, these drugs may be less desirable where health care inaccessibility or poor patient compliance are anticipated.

Except in unusual circumstances (eg, pathologic fracture or spinal cord compression), good analgesia can be maintained with time-convenient oral administration. "Rescue doses" for breakthrough pain can be given orally, preferably in the form of rapidly absorbed morphine or hydromorphone. Long-acting drugs or slow-release formulations have delayed onset, thus are less effective prior to acute changes in analgesic requirement such as increased activity, chemo/radio therapy, or diagnostic procedures.

When tablet swallowing becomes difficult, switch to solutions, elixirs, or syrups. Rectal suppositories, hydromorphone or oxymorphone for instance, can be used but require assistance — hence more opportunity for non-compliance. Continuous subcutaneous clysis has come into its own in hospice and even home settings now that relatively inexpensive battery-operated portable pump devices are available.

Water-soluble opioid is absorbed about as well SQ as when given IM (Table 1) and with considerably less discomfort. Since large volume can be a drawback of the subcutaneous route, hydromorphone (Dilaudid®) with its six-fold greater potency and higher water solubility than morphine has found especial application for continuous SQ infusion.⁹ Rate of absorption is slower than IV, but comparable to IM, so that rapid changes in analgesia should not be expected when the dose is

‘Indicators for raising the daily maintenance dose of opioids are increasing resort to rescue doses and shortened inter-dose painfree interval.’

altered. A thinwall small gauge butterfly needle can be rotated to different sites once or twice a week to minimize local irritation or infection.

Newer methods of opioid delivery — beyond the scope of this article — are transdermal, epidural, intrathecal, sublingual, and intranasal. Marked route-dependent dosing and kinetic differences exist; obtain expert consultation when uncertain about these delivery modes.

Adjuvant Drugs

In this class are drugs that enhance the effects of analgesics (co-analgesics), drugs that are effective in neuropathic pain, drugs that reduce anxiety and depression, drugs that counteract opioid side effects such as nausea, constipation or sedation, and finally steroids that can reduce inflammation and shrink steroid-responsive tumors.

Tricyclic antidepressants possess modest analgesic properties and can reinforce the analgesic effects of the more potent drugs described earlier. These co-analgesic effects are attained sooner, and at lower dosage, than the anti-depressant effect that may take weeks to become evident. Amitriptyline (Elavil®) is the standard for neuropathic pain and can be given in small amounts (25-50 mg to start) at night to induce sleep without causing excessive sedation. Counteracting depression and improving

appetite are other desirable attributes. Tricyclic antidepressants with fewer side effects (eg, nortriptyline or trazodone) may be substituted if desired.

More effective in neuropathic pain (where opioids are least effective), but at the price of hematopoietic risk, are anticonvulsants such as carbamazepine (Tegretol®). Often, these drugs are analgesic in less than full anticonvulsant doses, so lessening adverse effects. Baclofen (Lioresal®), a skeletal muscle relaxant, has been tried for neuropathic pain of central origin; use it cautiously with opioids. Clonazepam (Klonopin®), a benzodiazepine, is said to help relieve deafferentation pain, but likewise should be used cautiously with opioids.¹

Cancer patients are fearful about their disease, the treatment, and the eventual outcome. Anxiolytics such as a benzodiazepine (eg, diazepam or lorazepam), hydroxyzine (Vistaril®), buspirone (BuSpar®), or others may be useful. Methotrimeprazine (Levoprome®) is a new phenothiazine with reputed analgesic properties.⁴

Should somnolence or oversedation from heavy opioid intake interfere with the patient's lifestyle, an amphetamine, given only in the morning, may be of help. Amphetamines should be used cautiously — if at all — in the elderly, diabetic, or hypertensive patient. An analgesic effect has been described experimentally.¹

Corticosteroids (eg, dexamethasone) may directly lyse some steroid-sensitive tumors, or may relieve neural tissue compression or entrapment, by reducing edema and the local inflammatory reaction; they are emergency IV drugs in case of spinal cord compression or brain expansion. Steroids have been effective in ameliorating pain from plexopathies, from tumor spread to bone, or from radiation scarring.

Reduction in opioid dose when adjuvant drugs are used can be anticipated. Steroids can be used only for a limited period of time as their side effects often are undesirable in cancer management: fluid retention, proximal myopathy, increased risk of bleeding, and infection.

Cancer Pain in Children

Children with cancer cannot verbalize the subjective experience of pain as effectively as adults. In fact, the misconception that "children do not have pain" is still prevalent. Fear and anxiety complicate the picture, making good communication with child and parent all the more important. Parents' fear of drug addiction in their child adds to the challenge of solid pain relief. Otherwise, the principles of stepped pain management apply, with emphasis on oral medication and a minimum of injections. Keep in mind the different spectrum of malignancies in children (commonly hematologic) from that in adults, and the aggressiveness of tumor therapy.

Recommended daily pediatric analgesic doses are: morphine (oral) 0.2-0.4 mg/kg every 4 hours; morphine (slow release) 0.3-0.6 mg/kg b.i.d.; methadone (oral) 0.2 mg/kg t.i.d. or q.i.d.¹⁰ These are starting dose recommendations and can be incremented daily as needed. Longer acting analgesics (extended release morphine or methadone) prevent interruption of sleep for around-the-clock medication. Treatment-related pain (eg, mucositis, radiation dermatitis, and post-operative pain) is common in children, whereas tumor-related pain is lessened by aggressive multimodal cancer therapy until the near-terminal stages.

Analgesic titration is essential, dosing being escalated to comfort without defined upper dosage lim-

‘Be on the alert for central and respiratory depression when tumor therapy reduces the need for opioids, for the patient may receive a relative overdose beyond the (newly lowered) analgesic requirement.’

its. When anti-tumor therapy becomes effective, pain may be relieved considerably, and with it the need for continued large doses of analgesic. Adequate sleep is important and may be aided by giving somewhat more analgesic drug at bedtime than during the day. Constipation from opioids is almost universal, and should be managed from the start with stool softener and laxative, as described earlier. Nausea and vomiting are common and disruptive side effects of anti-tumor therapy; prophylaxis offers a considerable therapeutic as well as psychologic advantage.¹¹

Most NSAID induce platelet dysfunction and thus are of concern in children with thrombocytopenia. Aspirin in children with fever has been linked to Reye's disease. Acetaminophen (Tylenol®; Anacin®) lacks these side effects, thus is the NSAID of choice in the pediatric group, especially when bone or marrow are invaded.¹² Given with codeine (0.5 to 1 mg/kg) this can be an effective Step II approach, postponing the switch to strong Step III opioids.

While the oral route is preferred by children, it may not always be feasible or accepted. Injections are unpleasant, thus the child may be

undermedicated for fear of yet another shot. If an intravenous line or IV access device are needed for other therapy, continuous opioid IV infusion or PCA become sound options. Other routes are rectal suppositories or subcutaneous low volume clysis with a water-soluble and potent opioid such as hydromorphone (Dilaudid®).¹³ The rectal route, though quite effective, may not be acceptable to the child and is not advisable in neutropenic patients for fear of perirectal cellulitis. Alternate delivery systems such as transdermal, sublingual, buccal (lollipop), and transnasal (snuff) are under development but need further evaluation for pediatric use.

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Clinical Issues in Cholesterol Testing

Gerald R. Cooper, M.D., Ph.D., Gary L. Myers, Ph.D.

BECAUSE THE SERUM cholesterol level of a given patient has been found to vary, lipid investigators have begun to examine the sources of variation and to seek ways to accurately measure the total cholesterol (TC) level in the serum of a patient. A person's TC level varies primarily because of the effects of seasonal changes, behavioral changes, and clinical disorders or diseases.¹ Interest in sources of TC variation surged after it was observed that atherosclerosis in the blood vessels of the heart was a linear function of TC levels² and was magnified by the presence of other risk factors for coronary heart disease.³ Using long-term clinical trials, researchers recently documented that serum TC levels are directly related to coronary artery disease (CAD) mortality rates.⁴ Researchers had been concerned that lowering serum cholesterol levels lowered only CAD mortality rates and not total mortality rates; however, the findings of a long-term follow up of clinical trials proved that people who lowered their cholesterol levels for 10 years had lower mortality rates for both CAD and all causes combined.⁵ Clinical interest in lowering and monitoring serum TC levels increased even more when researchers observed that the lowering of serum TC was associated with a regression of atherosclerotic lesions.⁶⁻⁸

Investigators have measured both the variation of a person's serum TC levels over time and the specific

Abstract

Lipid investigators have begun to examine the biological sources of variation in serum cholesterol levels and to seek ways to accurately measure the total cholesterol (TC) level in the serum of a patient. A person's TC level varies primarily because of the effects from seasonal changes, behavioral changes, and illness. Results of studies of the effect of seasonal changes indicate that serum TC and obesity increase during winter and decrease during summer. Behavioral sources of variation include diet, alcohol intake, smoking, and exercise. Clinical sources of TC level variation include all illnesses. The physician can help control sources of variation by recognizing their causes, by advising of the effect that behavioral risk factors have on cholesterol levels, and by using the average of results for multiple specimens to estimate the true value of serum cholesterol in a patient.

sources of the variation. Individual variation is measured by acquiring multiple specimens from the same person over a specified period. Representative data suggest that the daily coefficient of variation CV for TC, measured about four times during the day, averages about 2.5%; the monthly CV of specimens collected twice per week averages about 4.8%; and the yearly CV of specimens collected once a month averages 6.1%.¹ The average intraindividual CV, however, varies

greatly: some people's TC levels have a CV less than 2%, and others have levels of more than 12% when their TC levels are measured over a period of months. This means that a minimum of three specimens must be collected from the same person several weeks apart if the precision requirements of the National Cholesterol Education Program Adult Panel are to be met.

Causes of TC Variation

The causes of the variation of a person's TC level can be divided into three classes: seasonal, behavioral, and illnesses. The results of studies on the effect of seasons indicate that serum TC and obesity increase during the winter and decrease during the summer.

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Behavioral sources of variation mainly include diet, exercise, alcohol intake, and smoking. People who consume too much saturated fat and cholesterol tend to have high serum cholesterol levels. Those who consume too much carbohydrate tend to have elevated triglyceride in very low-density lipoprotein (VLDL) in serum. Excessive triglyceride and cholesterol consumption results in elevated intestinal absorption, which in turn leads to chylomicrons in serum with elevated triglyceride and lipoprotein remnants with cholesterol. The most important saturated fatty acid in the diet for raising total cholesterol appears to be palmitic acid.⁹ Fish diets are often associated with dramatic decreases in serum triglyceride levels, apparently caused primarily by an inhibition of VLDL triglyceride synthesis. Strict vegetarians have about 37% lower LDL levels and 12% lower HDL levels than a control group of nonvegetarians.¹⁰ Mean TC, LDL-C, and HDL-C levels of lactovegetarians are about 21%, 24%, and 7% higher, respectively, than those of strict vegetarians.

Diets with desirable lipid content consist of about 7.5% saturated fatty acids, 7.5% polyunsaturated fatty acids, and 15% monounsaturated fatty acids of the total calorie intake that prevents obesity, and less than 300 mg daily intake of cholesterol.⁹

Researchers who examined obesity among monozygotic twins observed that the more obese twin had higher TC and triglyceride levels and lower HDL cholesterol levels. Exercise-induced weight loss is associated with increased HDL and HDL2 cholesterol serum levels and with decreased small LDL cholesterol levels. Among clinically healthy men, a low level of physical fitness is associated with a high risk of death from coronary heart disease. Alcohol intake increases the levels of triglyceride and HDL cho-

‘Fish diets are often associated with dramatic decreases in serum triglyceride levels, apparently caused primarily by an inhibition of VLDL triglyceride synthesis.’

lesterol, but it is associated with a decrease in HDL particles containing only apolipoprotein A-1. Elevated apolipoprotein A-1 is associated with decreased rates of coronary heart disease. Among adults, smoking is associated with higher serum levels of triglyceride, total cholesterol and LDL choles-

TABLE 1 — Representative Biological Sources of Variation of Total Cholesterol

<i>Seasonal</i>
Winter vs Summer
<i>Behavioral</i>
Diet
Exercise
Alcohol Intake
Smoking
<i>Illnesses</i>
Myocardial Infarction
Stroke
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Secondary Diseases
Sympathetic Nervous System Reactions
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terol, and lower levels of HDL cholesterol. Smoking, which clearly increases a person's risk of coronary heart disease, may act by several mechanisms. These include producing oxidized LDL, increasing carboxyhemoglobin levels, increasing clotting tendency and blood viscosity, and raising pathogenic lipid serum levels.

All illnesses affect total choles-

terol levels. Acute myocardial infarction or stroke may cause serum TC levels to decrease. The amount of the decrease varies with the serum TC level of the patient before myocardial infarction, and the TC decreases significantly only after the first day following myocardial infarction. Medications, particularly diuretic therapy, affect serum lipid levels, primarily by elevating triglyceride levels. Sympathetic nervous system reactions, which are also associated with elevated noradrenaline serum levels, are related to serum cholesterol elevations. Diabetic patients with CAD have lipid patterns similar to those of nondiabetic patients with CAD. Total cholesterol, LDL-C, and TG levels tend to increase and HDL-C levels tend to decrease among patients who are in altered metabolic states or who have secondary diseases such as hypothyroidism, nephrosis, myeloma, macroglobulinemia, liver disease, uncontrolled diabetes, and pancreatitis.

Experts have defined desirable, borderline, and high serum levels for TC and LDL-C for people without other risk factors for heart disease. The presence of other risk factors, however, lowers these cut-off points.

All people should know their total serum cholesterol value and the effect of other risk factors that may affect their risk of coronary heart disease. Long term clinical trials have documented that one's current lifestyle influences both one's quality of life 10 years later and one's chances of dying.

The physician can help control the biological sources of cholesterol level variation by recognizing their causes, by advising patients of the effect of behavioral risk factors on cholesterol levels, and by using the average of multiple specimens to estimate a patient's true serum cholesterol level.

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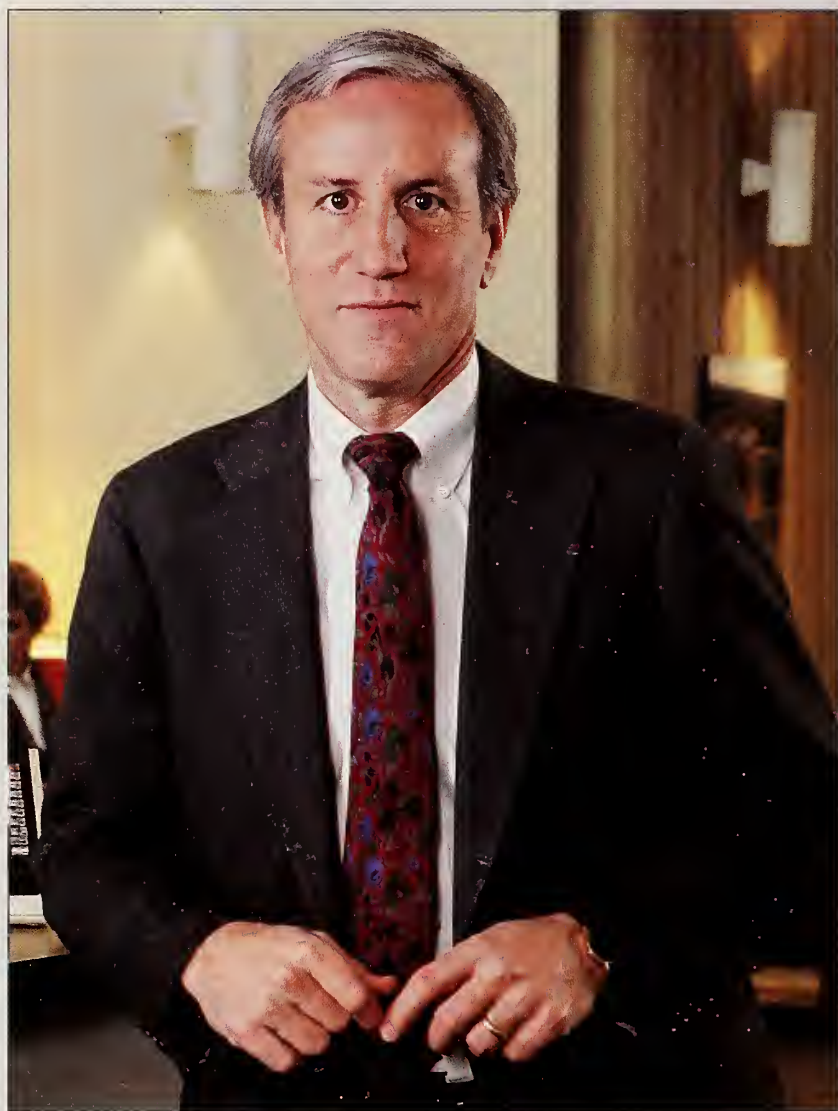
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If you don't know about Ridgeview already, call us and find out more. As a non-profit hospital, we are committed to providing quality services at reasonable costs.

Farrell H. Braziel, M.D.

Farrell H. Braziel, M.D.
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THE COVER

Painting by Robert Jessup, of Connecticut. Cover design by Hank Richardson, Richardson Design, Atlanta. See page 315 for a further discussion of Mr. Jessup and his art.



At what point does a diet become a suicide mission?

A lot of people are dying to be thin. Starving themselves with diets, abusing diuretics and laxatives, or inducing vomiting after meals. And their obsession with being thin can lead to permanent physical damage or even death.

Eating disorders – anorexia, bulimia and compulsive overeating – are addictions, which, left untreated, get progressively worse over time. The outward signs are often subtle, but if the condition isn't treated, the effects can be devastating on the whole family.

Identifying the problem is the first step toward treatment and recovery.

Here are some signs to look for:

- ☐ Constant dieting or preoccupation with food.
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- ☐ Mood swings.
- ☐ Isolation from family and friends.

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About the Cover Artist: Robert Jessup

ROBERT JESSUP is an artist who has thoroughly learned the lessons of a number of predecessors and has brought to painting a clear but very particular vision of the way the world is: brightly colored, distorted by passion and happenstance, full of the debris of civilization. Each of Jessup's pictures, whether painting or drawing, shows a moment in time — not the time of the painting, but the time *in* the painting: something is going on.

The art on the cover of this *Journal* captures a moment of time which we have interpreted as denial — the mask of addiction and one of its primary symptoms. The artfulness and fear which are hidden by the mask are intensely and emotionally conveyed in this image. Robert Jessup's paintings present his struggle to hold his world together while it seems to be both internally and externally falling apart and whirling about him uncontrolled and barely contained. The same can also be said for the lives of alcoholic and chemically addicted persons.

Robert Jessup's development as an artist has been organic, from the center out, much as a tree grows or a flower blooms. He is, therefore, not only a better artist today but also a considerably "bigger" and deeper one. He has grown most in his ability to tie everything into a whole that communicates itself as greater than the sum of its parts. That he has managed to do so in such a short period of time tells us more about his creative resources and potentials than anything else we might discover about him. Any reasonably talented artist, after all, can improve his or her craftsmanship or learn how to use color more effectively, but the ability to perceive and compose holistically, to integrate disparate elements into a seamless whole with a distinctive character all its own is a rare gift



and one that cannot be easily acquired.

Jessup borrows from Balthus the use of an encrustation of paint forming a tactile surface and the high stylization and generalization of forms. Botero's love of round volumes also seems to be an influence as does the mysterious, almost furtive ambiguity of the images of George Toker. The densely layered paint shimmers because of the heavy pigment saturation that results in part from the deft assembling of multiple patches. The results are intensely sensual.

Solo Exhibitions

1990

Landscape Songs and Stories, Carlo Lamagna Gallery, New York, NY
Tortue Gallery, Los Angeles, CA

1989

Virginia Museum of Fine Arts, Richmond, VA

Fay Gold Gallery, Atlanta, GA. Zolla/Lieberman Gallery, Chicago, IL.
The Sea Trilogy, Ruth Siegel Gallery, New York, NY

1988

Musicians, Ruth Siegel Gallery, New York, NY. *A View Towards Summer Space*, Fay Gold Gallery, Atlanta, GA. *Paintings 1981-1987*, University of Rhode Island, Kingston, RI

1987

The Four Seasons, Ruth Siegel Gallery, New York, NY. Janet Steinberg Gallery, San Francisco, CA

1986

Fay Gold Gallery, Atlanta, GA. Jan Turner Gallery, Los Angeles, CA. Ruth Siegel Gallery, New York, NY. Zolla Lieberman Gallery, Chicago, IL

1985

Ruth Siegel Gallery, New York, NY.
The Robert Dornbush Commission and Related Works, Fay Gold Gallery, Atlanta, GA

1984

Nicola Jacobs Gallery, London, England. Siegel Contemporary Art, New York, NY

1983

Fay Gold Gallery, Atlanta, GA. Leslie Levy Gallery, Scottsdale, AZ. Siegel Contemporary Art, New York, NY

1981

Roswell Museum and Art Center, Roswell, NM

Robert Jessup's art may be viewed at the **Fay Gold Gallery**, 247 Buckhead Ave., Atlanta, GA 30305. PH: 404-233-3843; FAX 404-365-8633.

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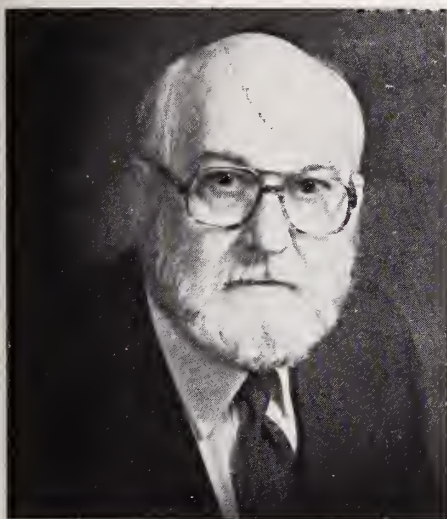
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Cyler D. Garner

THOSE OF YOU who know me, know I am a man of few words. An occasion like this, assuming the MAG Presidency, however, requires more than words, it requires a message from the heart.

I feel fortunate to be a physician, to be given an opportunity to become an important part of people's lives, to listen to their troubles, to proscribe to their ills and to be an extended member of their family.

We've talked a great deal in the past few days about the troubles afflicting medicine, our own disease if you will. I agree with the concerns about the future wholeheartedly. But I am also concerned that we not lose sight of other, equally pressing problems.

I became a doctor because I like to be involved with people. I think most of you share that trait, but I am increasingly aware that I cannot sit in my office and practice medicine on a patient, then send that patient out into a world of violence, hunger, and ignorance and expect my work to have any real meaning.

Our president, George Bush, when he was running for office, talked of a kinder and gentler America, and we all applauded because it touched a cord in all our hearts. But is it kinder when our infant mortality rate is a national disgrace? Is it gentler when small children are being sold into pros-

titution for drugs? Or killed on the streets? Or is it a tragedy?

I can prescribe modern medicines and order tests that are beyond anything we ever thought to have when I was in medical school. Yet I send my patients back into a world where we put more money into missiles than we do into education. That is a tragedy.

I plan to visit your county medical societies this year and continue encouraging you to move out. We need to forget the differences between the urban doctor and the rural doctor. I am a family physician, a fact of which I am justifiably proud, and I understand the needs of the specialists as well as those of the primary physicians. Let us unite and pledge to accept the challenge our world now presents. This association works for all physicians, wherever they are practicing. We need to move beyond our inter-associational concerns and turn our energies and, frankly impressive, talents to the full needs of our patients.

A Chinese curse goes: "May you live in interesting times." Interesting times require the best that we have to give. It requires all our courage and all our best resources. It means we become concerned with school lunches and city taxes. It means the courage to speak out when government is not governing

as it should. It means getting onto the committees and into the commissions.

It was Kahlil Gibran who said that if you ask what your country can do for you, you are a parasite. If you ask what you can do for your country, you are an oasis in the desert.

I'm proud to say that many of us are already involved, an oasis in the desert, if you will. I know that as mayor of Gordon, I'm frequently challenged to come up with solutions that would have given pause to Solomon in this day of shrinking budgets and increasing needs. I hardly feel like anybody's oasis.

I owe a tremendous debt of gratitude to those who came before me, not least of whom is Bill Collins. It was his effort to revitalize committees at the association that will enable us to move forward now. He has opened the door to discussions on redesigning the state medical board. His guidance has given us our Health Access Georgia from which we can begin to tackle the problems that face medicine. Following in his footsteps will mean giant strides, and I thank you sincerely for that challenge.

With your help, we can continue what Bill Collins has started.

We've made impressive strides this year with Health Access Georgia. It gives us the blueprint to

change the world. And, let me say, if we are going to change it, and change it we must, let us do so with the carefully thought-out intelligence we find in Health Access Georgia.

We, alone of any state medical association in the country, have taken our messages to our patients through television, circumventing a

media that doesn't seem to have the ability to hear our voices. The long-range effects can only be imagined, but we know it is already bearing fruit. Our voice is being heard.

We are more ready now than at any other time in our history to become a part of the solution. I don't pretend that we will accomplish everything in this one year. But we

have begun, we will begin more this year so that our world, our precious world can survive.

Robert Louis Stevenson wrote: "To travel hopefully is a better thing than to arrive, and the true success is to labor." Let me add to that: Let us enjoy our interesting times.

Cyler D. Garner, M.D.

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The Mask of Addiction

G. Douglas Talbott, M.D.

IN THE PAST 2 decades, American medicine has witnessed the advent of a new discipline — addiction medicine. This discipline has grown rapidly. We have acquired more knowledge about alcoholism, drug dependence, and other addictions in the past 20 years than we have in the past 20,000 years. As this country continues to move swiftly into a chemical culture, addiction medicine becomes increasingly important with regard to caring for the health of this nation.

As an addiction medicine specialist, I am increasingly aware of Georgia's leadership in the field of addiction medicine, particularly in the treatment and preventive aspects. In the early 1980's, the American Medical Association desig-

nated the American Society of Addiction Medicine (ASAM) as its chief arm in dealing with addictive disease. The Georgia Chapter of ASAM became strong and vigorous.

Addiction medicine has witnessed the development of new, innovative methods of dealing with the family dynamics of recovery. The newer aspects of codependency, children of alcoholics and dysfunctional families, inner-child therapy, and experiential therapy addressing the basic emotional responses arising from these family dysfunctions have all proven to be important developments in the treatment of addiction. These co-

dependency and family dysfunction issues are addressed in this issue by Katherine McCullough.

Also included in this issue is an article co-authored by the directors of several treatment centers in Georgia. They discuss the treatment programs in their centers and address some of the inherent problems in these centers. John Lenton, M.D., Director of Georgia's Impaired Physicians Program, gives us an update of that program.

The treatment of addiction in Georgia has been a model for other states. The Medical Association of Georgia and the State of Georgia can claim pride for a significant portion of that leadership. We *are* making progress in stripping away the mask of addiction.

Dr. Talbott is Guest Editor of this issue of the Journal. He is Director, Georgia Impaired Health Professionals Program; Founder, Talbott-Marsh Recovery Center; and Clinical Professor of Psychiatry, Emory University School of Medicine, Atlanta.

Tom Cruise or Don Knotts?

J. Thomas Cooper, M.D.

I AM OFTEN ASKED to use generic drugs for my patients when they want to "save money" at the drugstore. In a small number of cases, I permit this, but usually decline to use generics if I am not exactly sure what the source of these medications is. When pressed to explain, I have the following explanation for my patients:

"Imagine Mrs Jones (if it is Mr. Jones the explanation is a little different) that you want a new husband so you go to the Husband Store to buy you another one. The sales person asks what your preference and you tell him that you would like Tom Cruise or a Cruise clone. The salesperson, however, tries to sell you a generic equivalent. He describes a real bargain for you. Only a third of the cost of a Tom Cruise (or clone) but a "close equivalent" of the actor. All the specifications are the same (2 arms, 2 legs, normal auxiliary equipment, etc.), but there might just be a teeny bit of difference here and there. Your pre-paid husband replacement plan would prefer that you use a generic new spouse, instead of the more expensive Cruise model.

"You finally give in and agree to take a look at your generic bargain, and he trots out Don Knotts for your inspection. It is only remotely possible that you would ultimately purchase old Don instead of Tom but

‘Ask an independent pharmacist you know to compare the retail and wholesale costs for 100 different medications in the generic and brand names. Compute the profit margin — it will amaze you.’

if you did, even if they are generically equivalent, there is a great difference between the two.

"Mrs. Jones, that's what you do when you want certain generic products, instead of the brand names. The price is cheaper, and the drugs are "equivalent," but you sometimes don't know what you are getting from these bargain medications. If you really want a generic after all this, let me call your druggist and make sure the generic he or she uses is American-made and from a reputable manufacturer. If it's made in Iraq, Taiwan, or Italy, we had better do some shopping around for another generic brand."

Dr. Cooper is a family practitioner. His address is 1234 Powers Ferry Rd., Suite 104, Marietta, GA 30067.

Most of my patients want the brand name after I have gone through this explanation. I realize this isn't totally fair to certain reputable generic manufacturers, but if there is any doubt, I want to work it out with the pharmacist to make sure I trust what my patients get for these bargain rates.

There is a steady and constant pressure on pharmacists who work for large corporate pharmacy chains. They are urged, even pushed, to recommend generics for anything possible. The reason? It's simple, if you think about it. The cost to the patient per prescription is lower, that is true, but the *profit per prescription* is much higher when generics are dispensed, versus brand name. Don't take my word for it, however. Ask an independent pharmacist you know to compare the retail and wholesale costs for 100 different medications in the generic and brand names. Then compute the profit margin. It will amaze you.

These chains and the pharmacists working in them are not inherently evil, but I wish they would level with us about the *real* reason generics are pushed so vigorously. They are businesses and want to make more money. That's not a bad thing as long as what generics they sell are potent and effective enough.

Of Obituaries and Of Hope

Charles R. Underwood, M.D.

"We must give credence . . . to the books we find, through which old things are recalled, and to the teachings of the sages of old, and trust in the old approved stories of holiness, of reigns, of victories, of love, of hate, and various other things. . . . And if old books were away, the key of memory would be lost. . . . And as for me, though I know but little, I delight in reading books and hold them in reverence in my heart."

GEOFFREY CHAUCER

(A tribute to

Nicholas E. Davies, M.D.,
as chosen by the Editor)

"For he spoke hard and bitter words to me, and shut the door of his soul on me, and I withdrew. But I should have hammered on it, I should have broken it down with my naked hands, I should have cried out there not ceasing, for behind it was a man in danger, the bravest and gentlest of them all. So I who came to save was made a suppliant; and because of the power he had over me, I held, in the strange words of the English, I held my peace."

ALAN PATON, *Too Late the Phalarope*

(A quotation prefacing an article in the JAMA written by Nicholas E. Davies, M.D., and Louis H. Felder, M.D.)

"No man is an island, entire of itself; every man is a piece of the

continent, a part of the main; if a clod be washed away by the sea, Europe is the less, as well as if a promontory were, as well as if a manor of thy friends or of thine own were; any man's death diminishes me, because I am involved in mankind; and therefore never send to know for whom the bell tolls; it tolls for thee."

JOHN DONNE, *Sermon XVII*

I seem with some frequency to be asked how the decision is made as to what is written in the "Editor's Corner." "How do you make up your mind," they ask. "How do you plan it?" And the answer always seems to be the same. "Whatever happens to be happening at the time, or perhaps asks for a response. A reaction. It might be the season of the year — daffodils and dogwoods, a fishing trip, the death of a patient who had taught a lesson, malpractice and litigation." The putting together of the "Corner" seems always to require some type of contribution from the literature of years past as well as that being written currently, for in the physicians pursuit of our work we are brought into contact with, required to deal with, a wide gamut of problems and personalities. We pass our days in a veritable laboratory of the human condition. The insight of good literature refines and strengthens that portion of our lives. At times, with deadlines upon me, nothing seems to come forth. Oh, it is there of course, the subject matter, but the

“He was on his way to address a group of fellow physicians at Jekyll Island when ASA Flight 2311 plunged to the ground and burst into flames only minutes before arriving at its destination in Brunswick.”

ease of writing, or the work of it some say, lies asleep.

What does come forth clearly at times, fervently as judged by correspondence, does not meet with the approval and certainly not with the opinion or feelings of some of our readers. To these I owe a great debt for it is mainly from those who with cold and unimpeded passion express opposing opinions does one gain insight into the flaws, the cracks and crevices, of their own cogitation. Surely the accolades lend support and solace and soothe the restless and ego-frayed spirit for they are our life's hidden support group. But the detractors ignite thought and force reassessment. A cautionary note here to say that appearing here in this "Editor's Corner" are the thoughts and opinions of but one individual given the freedom of the MAG Executive Com-

mittee, our Publication Committee, to put in print those thoughts. To express those opinions. It is not the "party line" and as such I derive great comfort. This, the "party line," can be found elsewhere, and it is important. Here one finds freedom of expression.

IT WAS THEN in perusing such things that I thought it unusual, perhaps prophetic, that I received the April, 1991, issue of this *Journal*. We wrote then "Of Our Heritage, Of Our Legacy," and in that editorial addressed the issue of death and dying and funerals, only the next day to find the newspapers announcing the death of Nicholas E. Davies, M.D. Such news came to us who knew him with a sickening and disbelieving sadness. That degree of sadness and loss bringing with it the firm conviction that though life will surely go on, it will do so with an emptiness and a dullness not previously present. He was on his way to address a group of fellow physicians at Jekyll Island when ASA Flight 2311 plunged to the ground and burst into flames only minutes before arriving at its destination in Brunswick. The newspapers talked of his accomplishments, of his diversity. The involvement went far beyond the carrying on of a highly regarded practice of Internal Medicine and Cardiology to the establishment and nurture of the Visiting Nurse Association, the love and encouragement of the love of literature going so far as to lead him to the Chairmanship of the Board of Regents of the National Library of Medicine, finally to the Presidency of the American College of Physicians, a position he was to assume only the week following his death. Such were the many voids left by the death of this unusual and talented physician.

‘I had heard it said that the most important factor determining the size of the audience at one’s funeral would be the weather. Not so for Nicholas Davies.’

The memorial service came a few days after at St. Anne’s Episcopal Church. The small sanctuary, for so it is compared with those massive auditoriums of today, was packed, the walls lined with those standing. She whispered to me, my companion, "I wonder if so many important and busy people would come to my funeral at noontime on a weekday?" "They will pack the place," I assured her, "for many love you." I had heard it said that the most important factor determining the size of the audience at one’s funeral would be the weather. Not so for Nicholas Davies. Appropriate hymns were sung and scripture read. From Ecclesiastes came:

"Also when they shall be afraid of that which is high, and fears shall be in the way, and the almond tree shall flourish, and the grasshopper shall be a burden, and desire shall fail: because man goeth to his long home, and the mourners go about the streets: Or ever the silver cord be loosed, or the golden bowl be broken, or the pitcher be broken at the fountain, or the wheel be broken at the cistern. Then shall dust return to earth as it was: and the spirit shall return unto God who gave it."

And from the newer writings of the Apostle John:

"These things have I spoken to you, being yet present with you. But the Comforter, which is the Holy Ghost, whom the Father will send in my

name, he shall teach you all things and bring all things to your remembrance, whatsoever I have said unto you. Peace I leave with you: my peace I give unto you: not as the world giveth, give I unto you. Let not your heart be troubled, neither let it be afraid. Ye have heard how I said unto you, I go away, and come again unto you. If ye loved me ye would rejoice because I said I go unto the Father: for my Father is greater than I. And now I have told you before it come to pass, that when it is come to pass, ye might believe. Hereafter I will not talk much with you: for the prince of this world cometh, and hath nothing in me. But that the world may know that I love the Father; and as the Father gave me commandment even so I do. Arise, let us go hence.

THE GOSPEL OF JOHN 14:25-31

John Stone, the Emory physician and poet, Director of Admissions at that medical school, gave the tribute. He talked of the three more outstanding characteristics of Nicholas Davies. He spoke with accustomed poetic eloquence of, Grace, Passion, Love — These three. We wept those of us who knew, who admired, who perhaps envied this unusual man.

One cannot have known Nicholas Davies without asking the question, "Why he? Why now?" Physicians deal with that ponderable on a daily basis. How with little effort we all, we physicians find it to look back in memory to so many patients about whom we asked of ourselves, of our nurses and our fellow physicians, why a particular patient, in the prime of life, perhaps with a promising future before them, perhaps a young family to raise and take pride and pleasure in, succumbs to some fatal illness. "Why," we ask ourselves, "why, be there any reason

any consistency, any rationality to his life, why was this particular person chosen, singled out, to depart this temporal life so early and at this particular time?" We ask this question of ourselves else we are not but technicians. Mere automations trudging along the assembly line of life.

Perhaps that question — that why s/he" — was best addressed by Thornton Wilder in a book entitled *The Bridge of San Luis Rey*. In that seminal book, Thornton Wilder used an actual historic event to ask the rhetorical question of why certain five people happened to be on a swinging bridge traversing a giant chasm between Lima and Cuzco, Peru, when its supports gave way hurling those particular five to their death in the cavern below. It was a well regarded and often used means of passing across the gorge. Constructed of wooden slats and supported by woven vines it had provided safe passage for many years. But then at a particular place in time, the woven vines gave way and the five hurtled through space to their death. So it was that Thornton Wilder looked at each of the five in an effort to answer that elusive question, "Why did these particular five people, of all the many who had passed over the bridge of San Luis Rey, happen to be on the bridge when the ancient vines gave way?" Listen to Thornton Wilder.

"On Friday noon, July the twentieth, 1714, the finest bridge in all Peru broke and precipitated five travellers into the gulf below. This bridge was on the highroad between Lima and Cuzco and hundreds of persons had passed over it every day. It had been woven of osier by the Incas more than a century before and visitors to the city were always led out to see it. It was a mere ladder of thin slats put over the gorge, with handrails of dried vine. Horses and coaches

and chairs had to go down hundreds of feet below and pass over the narrow torrents on rafts, but no one, not even the Viceroy, not even the Archbishop of Lima, had descended with the baggage rather than cross by the famous bridge of San Luis Rey. St. Louis of France himself protected it, by his name and by the little mud church on the further side. The bridge seemed to be among the things that last forever; it was unthinkable that it should break. The moment a Peruvian heard of the accident he signed himself and made a mental calculation as to how recently he had crossed by it and how soon he had intended crossing by it again. People wandered about in a trance-like state, muttering; they had the hallucination of seeing themselves falling into a gulf.

There was a great service in the Cathedral. The bodies of the victims were approximately collected and approximately separated from one another, and there was great searching of hearts in the beautiful city of Lima. Servant girls returned bracelets they had stolen from their mistresses, and usurers harangued their wives angrily, in defense of usury. Yet it was rather strange that this event should have so impressed the Limeans, for in that country those catastrophes which lawyers shockingly call the "acts of God" were more than usually frequent. Tidal waves were continually washing away cities; earthquakes arrived every week and towers fell upon good men and women all the time. Diseases were forever flitting in and out of the provinces and old age carried away some of the most admirable citizens. That is why it was so surprising that the Peruvians should have been especially touched by the rent in the bridge of San Luis Rey.

Everyone was deeply impressed, but only one person did anything

about it, and that was Brother Juniper. By a series of coincidences so extraordinary that one almost suspects the presence of some Intention, this little red haired Franciscan from Northern Italy happened to be in Peru converting the Indians and happened to witness the accident.

It was a very hot noon, that fatal noon, and coming around the shoulder of a hill Brother Juniper stopped to wipe his forehead and to gaze upon the screen of snowy peaks in the distance, then into the gorge below him filled with the dark plumage of green trees and green birds and traversed by its ladder of osier. Joy was in him; things were not going badly. He had opened several little abandoned churches and the Indians were crawling in to early Mass and groaning at the moment of miracle as though their hearts would break. Perhaps it was the pure air from the snows before him; perhaps it was the memory that brushed him for a moment of the poem that bade him raise his eyes to the helpful hills. At all events, he felt at peace. Then his glance fell upon the bridge, and at that moment a twanging noise filled the air, as when the string of some musical instrument snaps in a disused room, and he saw the bridge divide and fling five gesticulating ants into the valley below.

Anyone else would have said to himself with secret joy: "Within ten minutes myself . . . !" But it was another thought that visited Brother Juniper: "Why did this happen to those five?" If there were any plan in the universe at all, if there were any pattern in a human life, surely it could be discovered mysteriously latent in those lives so suddenly cut off. Either we live by accident and die by accident, or we live by plan and die by plan. And on that instant Brother Juniper made the resolve to inquire into the secret lives of

those five persons, that moment falling through the air, and to surprise the reason of their taking off.

It seemed to Brother Juniper that it was high time for theology to take its place among the exact sciences and he had long intended putting it there. What he had lacked hitherto was a laboratory. Oh, there had never been any lack of specimens; any number of his charges had met calamity, spiders had stung them; their lungs had been touched; their houses had burned down and things had happened to their children from which one averts the mind. But these occasions of human woe had never been quite fit for scientific examination. They had lacked what our good savants were later to call proper control. The accident had been dependent upon human error, for example, or had contained elements of probability. But this collapse of the bridge of San Luis Rey was a sheer Act of God. It afforded the perfect laboratory."

I shall spare you Brother Juniper's generalizations. They are always with us. He thought he saw in the same accident the wicked visitation by destruction and the good called early to Heaven. He thought he saw pride and wealth confounded as an object lesson to the world, and he thought he saw humility crowned and rewarded for the edification of the city. But Brother Juniper was not satisfied with his reasons. It was just possible that the Marquesa de Montemayor was not a monster of avarice, and Uncle Pio of self-indulgence.

The book being done fell under the eyes of some judges and was suddenly pronounced heretical. It was ordered to be burned in the Square with its author. Brother Juniper submitted to the decision that

the devil had made use of him to effect a brilliant campaign in Peru. He sat in his cell that last night trying to seek in his own life the pattern that had escaped him in five others. He was not rebellious. He was willing to lay down his life for the purity of the church, but he longed for one voice somewhere to testify for him that his intention, at least, had been for faith; he thought there was no one in the world who believed him. But the next morning in all that crowd and sunlight there were many who believed, for he was much loved.

There was a little delegation from the village of Puerto, and Nina (Goodness 2, Piety 5, Usefulness 10) and others stood with drawn puzzled faces while their little friar was given to the congenial flames. Even then, there remained in his heart an obstinate nerve insisting that at least St. Francis would not utterly have condemned him, and (not daring to call upon a greater name, since he seemed so open to error in these matters) he called twice upon St. Francis and leaning upon a flame he smiled and died."

THORNTON WILDER,

The Bridge of San Luis Rey

Well, think as did Brother Juniper:

"Why were Nicholas Davies, John Tower, and 'Sonny' Carter on ASA Flight 2311?"

"Why were all those others, loved and revered also, on that plane?"

"Why did John Portman for reason of impulse unknown decide to change to another flight?"

"Is there a 'divine plan'?"

"Should there be such, a 'divine plan,' was Nicholas Davies a part of it or merely an innocent bystander caught up in the events of other peoples lives?"

We find ourselves, or not, passing

away our lives in a world replete with questions, few answers, and uncertainty. We ask ourselves, or with conscious inattention, as we arise each morning, those necessary directions which our next 24 hours shall take with no possible or available certain and reliable and anticipatory answer.

"Shall we go to work? — and with enthusiasm?"

"Shall we meet the tennis group — our winning ALTA associates — or attend the children's soccer match?"

"Is the constant attention to getting ahead in the 'practice' by constant availability more important than supporting the local American Cancer Society Board?"

"Shall we catch the last plane to Brunswick? — or???"

Somewhere in the business of our lives, not necessarily only but particularly in the lives of physicians, there lies a word called priority. We all have it. We all practice it. It is in our vocabulary. Some of us use it well, with unconscious understanding. Others use it gainfully for self gain. But use it we do, and unavoidably, to the gain or the loss of ourselves, our family, our profession. Nick Davies understood priority. I doubt that he planned for recognition by selecting his priorities. They just seemed to fall in place. We can't all be Nick Davies. We don't have the Grace, the Passion, the Love. We can, however, look at the life of one unusual physician and spend a bit of time wondering what has made so many people pay so much attention to his death. Wondering for instance why that little sanctuary with the beautiful stained glass windows was packed with "important people." And a noontime on a busy day.

VINTAGE HOUSE

*Old houses
Have a way of living longer
In a small town.
An old house rarely loses
Its identity.
It has a personality
All its own.
It's recognized —
It has friends —*

*Little boys
Know the peepholes
Where the shutters are cracked
And saggy —
And flick a few more pieces
Of peeling paint
Off the corners
Each time they pass.*

*Little girls
Look longingly
Ladylike
Through the front door panes
At dusty chandeliers and musty drapes
And rock
Their unborn memories
In the battered rocker
Aimed
At the front walk.*

*It's nice to have friends!
Especially —
As you grow old.*

SUMMER

*The sun melts chocolate bars on window sills,
Glues the pockets together with caramels,
Pulls out of peaches and cream the reluctant
freckle,
And adds the apple. How many dogs to heckle?
How many lazily snoring cats to tease,
Or secretly adoring parents to please?*

*The sun zigzags into your hideaway,
Gold plates cowlicks constantly pushed away.
Beside the walk your breastworks cross the plains
(Except inside where towels map the remains).
School business was never so studiously met
As logistic problems — How much mud to get?*

*Gently I avoid the weapons' touch
Of arrows, sling shots, mud-pie bombs and such
And mindful walk your charted channels of sea
As tricycle subs hide behind each tree.*

*Remembering, I smile. Was ever war like this:
A cease fire just to wave, a truce to give a kiss?*

JOHN RANSOM LEWIS, M.D.

Dr. Lewis, a plastic surgeon in Atlanta, is Georgia's Poet Laureate.

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In The Country of Hearts

JOHN STONE, M.D., *Delacorte Press, 1990*

John D. Cantwell, M.D.

IN MY FILES are manilla folders, categorized according to articles on various diseases and for miscellaneous topics ranging from sports to religion. Dr. John Stone merits a separate folder, for I have saved many of his essays, especially the series published in the *New York Times* Sunday Magazine. It was a delight to see these and other essays, mainly on cardiovascular diseases, published under one cover (*In the Country of Hearts*, Delacorte Press, 1990).

The book is divided into three parts: (1) the languages of the heart; (2) the patient as art; and (3) the common room. Of the seven chapters in Part 1, my favorite was "The Wolf Inside," about lupus erythematosus and one victim, Flannery O'Connor:

"Flannery O'Connor endured, to use Faulkner's term, despite the lupus. That she weathered the devastating side effects of ACTH and cortisone, continuing to write slowly, painfully, to find out exactly what she did think, makes her a heroine to me. But then, many of my patients seem heroic to me, especially the ones with chronic illnesses."

Dr. Stone concludes:

"Lupus betrayed Flannery O'Connor like a sophisticated horse, one with a wolf inside. Once within the body's gates, the enemy was everywhere. Still she prevailed, even if it was only until her thirty-ninth year. And her life and words are a study in keeping on keeping on."

Of eight chapters in Part 2, "An Infected Heart" and "The Timeless Heart" are beautifully written and contain surprises at the end. We also learn about the historic and practical aspects of Marfan's Syndrome in "A Family Matter" and the dramatics of the frozen section room in the pathology department, "... the room in which the body confesses."

Part 3 includes eight essays about topics such as chest pain, mitral valve prolapse, and balloon dilation of arteries. In "Chest Pains: What They Mean," Dr. Stone briefly reviews the history of angina pectoris, but attributes it to William Heberden in 1722 (it was in 1768 when he read his classic paper before the Royal College of Physicians). His (Stone's) description of clinical aspects of chest pain is useful information to pass along to patients. In "Balloon Man," Dr. Stone pays tribute to the late Andreas Gruentzig, who developed the procedure of balloon angioplasty to coronary arteries:

"Physically, Andreas had a certain resemblance to Errol Flynn, the cinematic risk-taker: he was slender, with penetrating eyes, a ready smile, and a mustache that made him seem both gallant and gallant. As e.e. cummings would have said, 'Jesus, he was a handsome man. ...'"

Dr. Cantwell is Director of Preventive Medicine, Cardiac Rehabilitation, and the Internal Medicine Residency Program, Georgia Baptist Medical Center.

With his background as a poet, Dr. Stone puts words and sentences together like a master sculptor, chiseling them out of marble and polishing the end product through multiple revisions. Consider the following examples:

- *"The literal heart...beat begins as a microscopic nudge, then a ripple. Thereafter, the heart is obliged, by only partly understood laws, to sing for its lifelong supper. Onerous duty it may be, but the heart seems to revel in it, thumping tirelessly, one of the happy things that go bump in the night."*
- *If we are to begin at the beginning, it must be way back. In the yolk of time. The problem began with the embryo, the cells which divide, burgeon, twist, and unfold, yielding to the wash of DNA and the codes of its helix. The embryo is an architect; it must invent, out of all that has gone before, the city it plans to inhabit."*
- *The navel is, of course, the smirk left by the umbilical cord, which is, in turn, the loose end of the thread from which our bodies were spun."*

Once a year, as part of our cultural enrichment program at Georgia Baptist Medical Center for internal medicine residents, I have Dr. Stone share his literary talents. As he writes in "Listening to the Patient":

"Literature can provide for stu-

dents of medicine something of what psychotherapy can provide for its patients: catharsis, personal insights, and support."

He further states:

"No one wants to dispense with technology, only to distance it and keep it in context; literature can

be especially helpful in this." and

"Physicians and writers draw upon the same sources: the human encounter, people and their indelible stories."

In the Country of Hearts, Dr. Stone

shares the indelible stories of patients he has encountered, and medical topics of interest to a wide variety of readers. The book is an inspiration to those of us who seek to become better writers, and a joy to all who appreciate fine prose.

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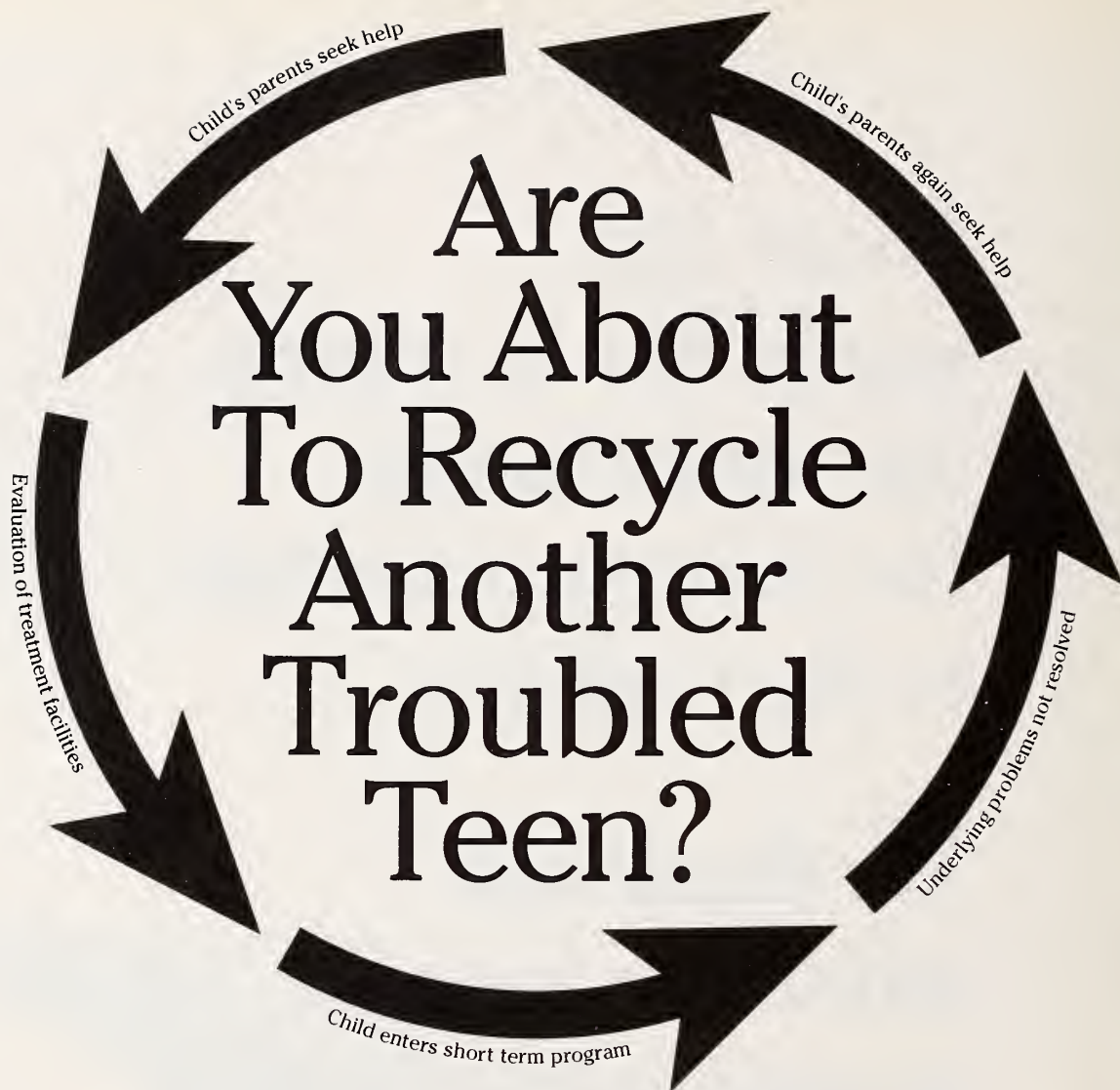
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Gulf War Proves A Hindrance For Hospitals

The most noticeable effect of the Gulf War crisis on Georgia hospitals has been the difficulties associated with filling vacancies left by staff members called to active duty in the reserves. Nevertheless, 42 of 62 hospitals responding to a Georgia Hospital Association survey mailed before the war's end reported no significant effect on hospital services as a result of the conflict. Another 17 hospitals characterized their key staff vacancies as "hindrances" and said they had implemented emergency staffing plans to fill positions, including the use of temporary personnel and agency nurses and physicians.

Only three Georgia hospitals — one urban and two rural — indicated a serious or critical problem with staffing.

Hospital officials in other parts of the country were somewhat more concerned about the increased call-up of health care personnel to serve in Operation Desert Storm, particularly in rural areas of Alabama and the Midwest. The most vulnerable rural hospitals were those with large numbers of staff members in the reserves and facilities located in isolated areas, according to the National Rural Health Association.

"The loss of one doctor, nurse or nurse anesthetist can have a devastating effect on the local health care system," the NRHA said.

An initial GHA poll in the fall of 1990 found that Georgia hospitals located in communities with military bases seemed to be most affected by the situation in the Middle East. However, in the follow-up poll, Emory University Hospital in Atlanta, Hart County Hospital in Hartwell, and Dorminy Medical Center in Fitzgerald reported experiencing significant problems.

Emory experienced a dramatic decrease in admissions with the

call-up of three physicians and 11 operating room and critical care nurses. Hart County was forced to stop urological services when its only urologist was called to active duty.

Dorminy lost both of its certified registered nurse anesthetists (CRNAs), as well as its only surgeon, and was on the verge of closing its surgical department before a permanent deferment was granted for its personnel at the request of Co-Administrator Bonnie D. Kelly.

Kelly flew to Washington, D.C. to testify about the war's impact on her hospital at a Feb. 19 subcommittee hearing of the House Energy and Commerce Committee.

"The resumption of a surgery program at our hospital has proven to be a tremendous benefit for our community and the hospital. It has also served as a catalyst for physician recruitment and retention," Kelly testified. "However, I'm here to say today that with the loss of some of our key personnel — which could result in the total shutdown of our two operating rooms — the continued viability of our hospital will be in jeopardy."

Though the war has officially ended, the shortage in many parts of the country has not. Thousands of medical specialists have yet to return to the states, heightening existent shortages and causing some disruptions in medical care, according to the American Hospital Association.

Of the 24 state hospital associations reporting staff shortages, 20 have felt an impact in nursing services. Call-ups of physicians, health professionals and CEOs, including Robert Baldwin of Morgan Memorial Hospital in Madison, Ga., also have had an effect.

Fifty U.S. community hospitals in 25 states closed last year, the lowest number since 1985, when 47 were shuttered, according to the

American Hospital Association.

In addition, 43 hospitals opened in 1990. Thirty-seven of those are specialty facilities — 25 psychiatric, 11 rehabilitation, and one long-term care facility. The six others that opened are general hospitals.

The 50 hospitals (26 rural and 22 urban) that ceased operation in 1990 represent a 23 percent drop from the previous year and a 41 percent decline from 1988, when 85 hospitals closed.

Total closures from 1980 through 1990 numbered 761: 558 community hospitals and 203 non-community facilities (all federal hospitals, long-term care hospitals, and psychiatric and chemical-dependency facilities). Of the total closures, 431 were in urban regions and 330 were in rural areas.

Fifteen of the facilities that closed in 1990 were government-operated, 13 were investor-owned, and 22 were operated by non-government not-for-profit organizations.

Texas had the greatest number of hospital closures last year, 11, followed by California and Louisiana, with four each. From 1980 through 1990, 44 states had at least one hospital closure. Texas was the leader with 106 closings. Next came California with 56, followed by New York with 39.

Sixteen of the community hospitals that closed in 1990 continued to offer ancillary health services. Of those, 10 provided some form of outpatient care and six operated nursing homes. Two administrators indicated that their facilities might reopen acute care services in 1991.

QUOTES

*Be not the first by whom the new are tried,
Nor yet the last to lay the old aside.*

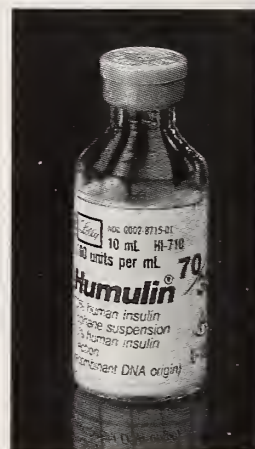
ALEXANDER POPE:
An Essay on Criticism, II, 1711

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Dear Editor,
I have just received the April edition of your magazine, and the cover is fabulous as are the contents within. Keep up the great work.

Warmest regards,
Frank R. Joseph, M.D.
Otolaryngologist, Atlanta

Dear Editor,
Having just read the April issue of the *JMAG*, I am moved again to convey my approval of your own contributions. It is good sometimes to sit down and reflect upon subjects you present in the Editor's Corner. Too often in our hurried lives we forget to sit and think, to consider the thoughts and values we would place foremost.

And I always read the quotes with interest. Over the years, now 78+ for me, I have written down a few. I offer them to you, to use or not as you choose.

The secret of happiness is to have a hearth of thought at which you may always warm your mind. PLUTARCH, as quoted by Will Scarlett of the Calgary Clinic.

One seldom speaks of oneself without deridement to the person spoken of. MONTAIGNE

My lamp is almost extinguished. I hope it has burned for the benefit of others. PERCIVAL POTT (for whom the fracture was named.)

The respect and affection of those who know him best must become man. ANON.

Christianity excludes man from enjoyment that is compatible with his highest good. MARK HOPKINS, President of Williams College in the mid-19th century.

And for a chuckle: Paracelsus Philippus Aurelius Theophrastus Bombast von Hohenheim), iconoclast of Basel, has been considered the first one to use mercury to treat syphilis. A contemporary wit said: "Spend one hour with Venus

— and the rest of your life with mercury +."

Lest I weary you, it is time to desist. Selah!

With best regards,
Arthur Singer
Radiologist, Toccoa

Dear Editor,

I have been quite disappointed since the Georgia Legislature voted out the double line prescription. I thought double line prescription pads were an efficient way for the physician to designate whether generic or brand name medications could be given.

I recently discussed this with the State Board of Pharmacology and have found that although we have a single line for our name it is also appropriate that we have an additional line for "brand necessary." I have had my printer do this for my prescriptions and would recommend this for other physicians.

Sincerely yours,
John A. Goldman, M.D.
Internal Medicine, Allergy & Immunology
Atlanta

QUOTES

*Some feelings are to mortals given,
With less of earth in them than Heaven.*

WALTER SCOTT: *The Lady of the Lake*, II, 1810

It is the hardest thing in the world to put feeling, and deep feeling, into words. From the standpoint of expression, it is easier to write a "Das Kapital" in four volumes than a simple lyric of as many stanzas.

JACK LONDON:
To Anna Strunsky Walling, Dec. 27, 1899

It is not the object of war to annihilate those who have given provocation for it, but to cause them to mend their ways; not to ruin the innocent and guilty alike, but to save both.

POLYBIUS: *Histories*, v

The sinews of war are infinite money.

CICERO: *Orationes Philippicae*, v, c. 60 B.C.

Life, to be worthy of a rational being, must be always in progression; we must always purpose to do more or better than in time past. The mind is enlarged and elevated by mere purposes, though they end as they begin by airy contemplation.

SAMUEL JOHNSON:

To Hester Thrale, Nov. 29, 1783

Ours are a sort of modest, inoffensive people, who neither have sense nor pretend to any, but enjoy a jovial sort of dullness; they are commonly known in the world by the name of honest, civil gentlemen.

ALEXANDER POPE:

Letter to William Wycherley, Oct. 26, 1705

True eloquence does not consist in speech. Words and phrases may be marshalled in every way, but they cannot compass it. It must consist in the man, in the subject, and in the occasion. It comes, if it comes at all, like the outbreking of a fountain from the earth, or the bursting forth of volcanic fires, with spontaneous, original, native force.

DANIEL WEBSTER: *Speech in Boston* Aug. 2, 1826

Every man values himself more than all the rest of men, but he always values others' opinion of himself more than his own.

MARCUS AURELIUS: *Meditations*, XII, c. 170

MRI UPDATE



Figure 1



Figure 2

CLINICAL HISTORY: This is a 26-year-old male with back pain and right lower extremity radiation.

FINDINGS: This is an example of a normal study on a young adult. **COMMENT:** MRI is the screening test of first choice for suspected disorders of the lumbar spine. Notice the clear depiction of the normal L5-S1 disc (figure 1, crossed arrow). The discs of this patient exhibit high signal intensity reflecting normal hydration and none of the discs are narrowed. None of the discs indent the thecal sac which is of intermediate signal intensity and appears as the gray band

in the center of the image. The vertebral bodies are homogeneous and free of destructive lesions. The conus medullaris (arrow) is normal. This sagittal image demonstrates the advantages of MRI over other screening modalities. Routine CT scanning will not display the conus medullaris, lesions of which may masquerade as disc herniation. The general area of coverage is superior with MRI. Disc detail is much better displayed with MRI.

The axial image at L5-S1 (figure 2) exhibits delineation of intraspinal detail far superior to that of CT. The right S1 nerve root is clearly

displayed (arrow) surrounded by normal perineural fat which is the bright high intensity material in the periphery of the spinal canal. State-of-the-art MR images clearly display the bony anatomy of the lumbar spine including the facet joints (crossed arrow). Degenerative diseases and bony neoplasm are routinely detectable.

MRI involves no ionizing radiation and no intrathecal contrast material is needed. It is a patient-friendly outpatient examination well suited for screening purposes.



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9-13 — *Sea Island: 15th Symposium on Lung Disease.* Contact M. Williamson, Southern Medical Association, 35 Lakeshore Dr., PO Box 190088, Birmingham, AL 35219. PH: 800/223-4992.

3-15 — *Atlanta: Contact Lens Update.* Category 1 credit. Contact Office of CME, Emory Univ. Sch. of Med., 1440 Clifton Rd., Atlanta 30322. PH: 404/727-5695.

7-22 — *Kiawah Island, SC: 22nd Annual Internal Medicine Symposium.* Category 1 credit. Contact Div. of Cont. Ed., MCG, Augusta 30912-1400. PH: 404/721-3967.

10-23 — *Sea Island: GA Chapter, American Academy of Pediatrics.* Contact William C. Mankin, 4059 Land O'Lakes Drive, NE, Atlanta 30342. PH: 404/237-3922.

1-23 — *Hilton Head Island, SC: Daily Anesthetic Challenges.* Category 1 credit. Contact Div. of Cont. Ed., MCG, Augusta 30912-1400. PH: 404/721-3967.

7-30 — *Kiawah Island, SC: Hematology and Oncology.* Category 1 credit. Contact Div. of Cont. Ed., MCG, Augusta 30912-1400. PH: 404/721-3967.

JULY 1991

1-11 — *Lake Lanier: Nuclear Medicine Update.* Category 1 credit. Contact Office of CME, Emory Univ. Sch. of Med., 1440 Clifton Rd., Atlanta 30322. PH: 404/727-5695.

5-17 — *Kiawah Island, SC: Update in Gynecology.* Category 1 credit. Contact Div. of Cont. Ed., MCG, Augusta 30912-1400. PH: 404/721-3967.

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credit. Contact Div. of Cont. Ed., MCG, Augusta 30912-1400. PH: 404/721-3967.

29-31 — *Kiawah Island, SC: 14th Annual Pediatric Update.*

Category 1 credit. Contact Div. of Cont. Ed., MCG, Augusta 30912-1400. PH: 404/721-3967.

AUGUST 1991

1-3 — *Hilton Head Island, SC: Financial Management.* Category 1 credit. Contact Div. of Cont. Ed., MCG, Augusta 30912-1400. PH: 404/721-3967.

5-10 — *Amerila Island, FL:*

Summer Imaging and

Interventional Techniques.

Category 1 credit. Contact Office of CME, Emory Univ. Sch. of Med., 1440 Clifton Rd., Atlanta 30322. PH: 404/727-5695.

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11-13 — *Savannah: 15th Annual Neonatology — The Sick*

Newborn. Category 1 credit.

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27-29 — *Atlanta:*

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credit. Contact Div. of Cont. Ed., MCG, Augusta 30912-1400. PH: 404/721-3967.

30-1 Oct. — *Atlanta: Quantitative Thallium Myocardial*

Tomography. Category 1 credit.

Contact Office of CME, Emory Univ. Sch. of Med., 1440 Clifton Rd., Atlanta 30322. PH: 404/727-5695.

OCTOBER 1991


3-6 — *Atlanta: GA Chapter, American Academy of Pediatrics.* Contact William C. Mankin, 4059 Land O'Lakes Drive, NE, Atlanta 30342. PH: 404/237-3922.

24-25 — *Atlanta: Women's Health Care.* Category 1 credit. Contact Office of CME, Emory Univ. Sch. of Med., 1440 Clifton Rd., Atlanta 30322. PH: 404/727-5695.

25-27 — *Atlanta: American College of Utilization Review Physicians.* Contact ACURP, Southbridge Park, Bldg 3, Suite 304, 1521 S. Tamiami Trail, Venice, FL 34292. PH: 813/497-3340.

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Alcoholism and Other Drug Addictions: A Primary Disease Entity, 1991 Update

G. Douglas Talbott, M.D.

Alcoholism is characterized by continuous or periodic: Impaired control over drinking; preoccupation with the drug alcohol; use of alcohol despite adverse consequences; and distortions in thinking, most notably denial.

professionals, including physicians, nurses, dentists and pharmacists, the following seven elements which lead to denial of alcoholism and other drug addictions as the primary disease entity have been identified:

Dr. Talbott is Founder, Talbott-Marsh Recovery Campus; Director, Georgia Impaired Health Professionals Program; and Clinical Professor of Psychiatry, Emory University School of Medicine. Send reprint requests to him at 1669 Phoenix Parkway, Suite 102, Atlanta, GA 30349.

- **Compulsive Behavior**
Compulsive behavior relating to the intake of alcohol and other drugs has been erroneously interpreted as a symptom of an underlying, psychiatric disorder or as a lack of willpower, motivation, "guts." These interpretations belie the biologic-genetic basis of addictive, compulsive behavior.
- **Confusion Between the Chemical Abuser and the Chemically Dependent Individual**
The individual with true psychosocial, biogenetic disease, in which the primary symptom is intermittent or continuous loss of control and compulsive intake of the drug, differs from, and is often confused with, the chemical abuser who retains control over chemical intake.
- **Lack of Knowledge About the Disease**
The natural course of the disease, wherein a range of individuals may abuse the drug but only a few cross the biogenetic wall

IN 1986, the author published in this *Journal*¹ an article based on both the literature and data gathered from 1,200 physicians whom he personally treated through the Georgia Impaired Physicians Program. The author's database of treated physicians has now increased to 2,700. New information about the neurobiochemistry of the neurotransmitter systems in addiction, along with the advances in genetic information relating to addictive disease, dictate an update on this primary disease. Also, since the original article was published, addiction medicine through the American Society of Addiction Medicine, Inc. (ASAM) has gained recognition and is moving toward a specialty based upon the primary disease entity of addiction.

Despite overwhelming scientific evidence, there continues to be difficulty, even among some health professionals, in understanding the precept of addiction as a primary disease entity. Given the difficulties of educating over 4,000 health

to contract the disease, adds to the confusion. In addition, the course of the disease can be measured in months for some individuals, in years or even decades for others.

- **Volume, Dose, and Duration of Intake**

Degree of intake alone does not determine whether one becomes diseased. It is the genetic predisposition in the face of abuse that is needed to cross the biogenetic wall. For every addict, there are individuals who have used larger quantities of the drug over longer periods of time. Yet the latter group does not demonstrate compulsive lack of control over drug intake.

- **Drug Abuse**

The abuse of drugs in and of itself can be both profound and lethal. There is an erroneous perception that serious alcohol and drug consequences, resulting in disability or death, means the disease state is present. This is not necessarily the case. Abuse without the disease can lead to major medical problems, even death.

- **Individuality of the Disease**

There are a range of individual manifestations of this disease. In children, chemical dependence frequently masquerades as another disease. Males and females differ, and individuals of the same gender have unique responses by different organ systems. In the elderly, the disease presents yet another clinical syndrome. Serious abuse for one individual is not necessarily indicative of serious abuse for another.

- **Denial**

Denial is a primary thinking distortion based upon one of the most powerful and painful realizations in the human species: an inability to control one's own life. Such compulsive drug intake is predicated upon biologic dysfunction within the mid-brain

The individual with this biogenetic disease, in which the primary symptom is compulsive intake of the drug, differs from, and is often confused with, the chemical abuser who retains control of chemical intake.

control centers.

Gradually, through education, observation, and personal experience, particularly with health professionals, these seven elements of denial are being defused or attenuated.

Alcoholism Defined

After concentrated study, the ASAM and the National Council on Alcoholism and Drug Dependency (NCADD) have arrived at a definition of alcoholism: *"Alcoholism is a primary, chronic disease with genetic, psychosocial, and environmental factors influencing its development and manifestation. The disease is also progressive and fatal. It is characterized by continuous or periodic: Impaired control over drinking, preoccupation with the drug alcohol, use of alcohol despite adverse consequences, and distortions in thinking, most notably denial."* This definition also applies to the other drug addictions.

According to Stedman and other standard medical dictionaries, "disease" is defined as an abnormal state of health characterized by the following five components: (1) It must be a primary condition, not a secondary symptom; (2) Specific anatomic and physiologic changes must be evident; (3) Recognizable sets of signs and symptoms that permit accurate diagnosis must be

present; (4) The disease must have a predictable, progressive course; and (5) There must be established etiologic agents or causes responsible for the disease. Each of these five components will be addressed separately.

It must be a primary condition, not a secondary symptom. A major stumbling block to identifying alcoholism as a primary disease is the manifestation of compulsive and often toxic, abnormal behavior. Historically, many alcoholics and drug addicts have been labeled with psychiatric diagnoses. Their drinking or other drug intake was thought to be diagnostic of a primary psychiatric disorder.

Our first 1,000 treated physicians were carefully triaged by neuropsychologic testing, addiction medicine assessment, and psychiatric interviews. Based on both our clinical studies of these individuals and the literature, alcoholism and drug addiction can be differentiated into the primary disease of chemical dependence, the primary disease of psychiatric illness, and dual diagnoses. This distinction may elude unknowledgeable physicians performing routine psychologic and psychiatric examinations. An inaccurate assumption may be made that depression, anxiety, compulsive behavior, and varied emotional responses are primary to an underlying psychiatric disorder, rather than to the secondary manifestations of the disease of chemical dependence.

The ASAM has established criteria for certifying addiction medicine specialists who are capable of making these distinctions. ASAM also emphasizes the importance of including a qualified psychiatrist and a competent neuropsychologist on the diagnostic team.

Specific anatomic and physiologic changes must be evident. The last decade in particular, with its newer diagnostic tools, has enabled us to appreciate the incrimi-

nation of almost every organ system by this disease. As syphilis was the great clinical imposter at the turn of the century, so are alcoholism and other drug addictions today. It is estimated that the admission of every other patient to a medical/surgical hospital is the fundamental result of chemical abuse and disease. Literally every medical specialty is touched by this disease.

Refinement of diagnostic techniques, particularly in dimensional and electron radiography, biopsies, and electrophysiologic studies, have further delineated and defined abusive alcohol and drug use from true addictive disease. Genetic studies are advancing theories as to the specific chromosomes which carry the generational, genetic messages. Diagnostic clinicians and laboratory physicians can now distinguish abusive versus addictive changes.

Recognizable sets of signs and symptoms that permit accurate diagnosis must be present. The seven diagnostic criteria for the disease of chemical dependence are: Compulsive use of the drug with loss of control; physical consequences of the disease; emotional consequences of the disease; social/spiritual/cultural consequences of the disease; changing abnormal tolerance; withdrawal; blackouts or true drug amnesia. It should be noted that the criteria may not all be discernable until the disease is fully established.

1. The major diagnostic criteria, initially intermittent and later continuous, is compulsive use of the drug with loss of control. The major etiologic factor of this compulsivity is the neurobiochemical dysfunction of the neurotransmitter systems within the Medial Forebrain Bundle (MFB), the so-called "pleasure pathway."

The major etiologic component of compulsivity is the neurotransmitter abnormality that occurs within the ancient survival brain.

An inaccurate assumption may be made that depression, anxiety, compulsive behavior, and varied emotional responses are primary to an underlying psychiatric disorder, rather than to the secondary manifestations of the disease of chemical dependence.

The human organism responds to this biogenetic abnormality with survival behavior. The chemically dependent individual will do anything to live, to endure. At this disease point, the only alternative for the alcoholic and/or drug addict is to take more of the drug in order to correct the molecular dysfunction within the MFB.

Far more important than family, job, health, or money is the ancient instinct to survive. The alcoholic and/or drug addict has no alternative at this point, other than compulsive use, with loss of control which is the primary symptom of the disease. Viewing the MFB as a filter, this is the "broken filter disease."

Many individuals drink or use drugs, even to excessive bodily harm or death, but they don't become addicted. When an individual crosses the biogenetic wall, compulsivity and other major diagnostic criteria emerge because that individual's filter is broken. The MFB dysfunctional neurotransmitter system, the broken filter, can only occur if two requirements are fulfilled: abuse of the substance must be presented to the host's ancient survival brain; and the genetic predis-

position must already be in place to respond to the abusive exposure.

It is now clear that the disease of alcoholism and other addictions has a genetic component. Speculation as to specific chromosomes, such as C-11, have been postulated. However, there is doubt with respect to identifying a specific chromosome. Evidence indicates that multiple chromosomes are involved.

The author recognizes different phases and types of the disease that have served as a basis for classification. However, it is speculated that the neurotransmitter system of dopamine, serotonin, and norepinephrine within the MFB and other receptor sites of the hypothalamic brain might provide a more appropriate classification system. The compulsivity of this disease is based upon these biogenetic transmitter defects. This differs from the classification used to define other compulsive behaviors, such as obligatory hand-washing, which result from specific nuclear changes within the cortical brain.

2. The second major criteria are the physical consequences of this disease which involve almost every organ of the body. As discussed above under specific anatomic and physiologic changes, this disease is the great imposter of the 1990s. A 1970's report from Roosevelt Hospital indicated that when the charts were carefully reviewed, 70% of all patients admitted to the hospital were there as a result of addictive disease. A more recent study by ADAMHA demonstrated that 1 of every 2 beds, excluding pediatric and obstetric services, in med-surgical hospitals is occupied as a result of substance abuse.

As previously mentioned, confusion exists between the physical changes due to abuse of alcohol and other drugs and true addictive disease. Abuse itself can cause serious physical consequences, including death. Biopsy, radioactive

flow studies, advanced radiographic techniques, etc., can now distinguish between abusive and addictive changes in the various organs.

3. The third major criteria is the emotional consequences of alcoholism and/or other drug addictions which occur initially in almost every individual. Depression, anxiety, anger, guilt, and a variety of emotional highs and lows are present and frequently mistakenly identified as primary psychiatric disorders. Addiction medicine specialists, with the help of psychiatrists and complete neuropsychologic studies, can differentiate these secondary emotional complications from primary psychiatric disease and dual diagnoses.

4. The fourth major criteria are the social/spiritual cultural consequences identified by evaluating the impact of the addictive disease on the individual's job, family, and religious life. Denial and lack of knowledge concerning the disease may falsely lead patients to feel that they drink and/or use other drugs because of job, financial, legal, family, physical, and/or community stresses. In truth, these stressors are secondary to the compulsive intake of chemicals.

The natural history of the disease leads to this self-deception. Initially the patient may not have a serious family argument every time he or she drinks, but every time there was a family argument the patient was drinking. Or the patient may not be having trouble at work while using pills, but every time there was trouble at work, the patient was using medication. With time, the relationship between the intake of alcohol and/or other drugs and the consequences in the social/spiritual/cultural life becomes more apparent.

5. Changing abnormal tolerance is the fifth major criteria in the diagnosis of alcoholism. With the drug alcohol used in the normal or abusive range, tolerance may grad-

The major etiologic component of compulsivity is the neurotransmitter abnormality that occurs within the ancient survival brain.

ually increase. But in the diseased individual, there is an initial dramatic increase in tolerance with an abrupt, precipitous fall at a later date. Increased dramatic tolerance in the diseased individual, as opposed to the non-diseased abuser or user, holds true with all drugs. The rate of fall in tolerance varies, depending on the drug, but is abrupt in the sedative-hypnotics and stimulants, and more gradual in the opiod drugs. The variations in intensity and duration of tolerance are marked and characteristic of the disease of addiction.

6. The sixth criteria diagnostic of disease is withdrawal. Significant withdrawal usually accompanies alcoholism and is progressively more severe. While severe abuse or iatrogenic heavy dosages may also produce withdrawal, it is usually mild and temporary. When withdrawal, rather than hangover occurs from the drug alcohol, one must consider the diagnosis of chemical dependence. Clinical withdrawal, particularly in the second stage of hallucinations, may go unrecognized by the clinician as the patient will withhold this information because of denial, fear, or shame.

7. Blackouts or true drug amnesia is the final diagnostic criteria. Abuse of alcohol, which is a derivative of ether, may produce a state of unconsciousness. However, true drug amnesia or blackouts are indicative of disease and are differentiated from toxic drug unconsciousness. Blackouts are true drug

amnesia and can occur with addiction to any of the sedative-hypnotic drugs as well as with the narcotic agents. However, it does not occur with addiction to stimulants or hallucinogens.

Returning to the 7 components of disease defined by Stedman, the next component is: **The disease must have a predictable, progressive course.** While there is tremendous individuality in the timing and repetition of the course of the disease of alcoholism and other drug addictions, there is a basic predictable, progressive course. In 1935, when a physician co-founded Alcoholics Anonymous (AA), the eventual outcome of untreated alcoholism was characterized as terminating in jail, psychiatric hospitalization, or death.

The disease of chemical dependence is thus classified as chronic, progressive, relapsing, and lethal if untreated. This makes attempts to teach alcoholics and/or drug addicts to drink and/or use socially medically unsound and potentially life-threatening. **There must be established etiologic agents or causes responsible for the disease.** There is no question that the disease is a product of the agents (alcohol and drugs), the environment, and the biologic-genetic characteristics of the individual. However, exact etiologic components or causes have not yet been elucidated. This also holds true with other diseases including cancer and myocardial infarctions.

In the alcoholic, we know the agent is the drug, alcohol. It must interact with the individual's genetic predisposition and environment which play a major role in the development of alcoholism. It is appreciated that alcohol is the agent, but it must be recognized that it is an agent used with far greater tolerance and duration by some abusers. Therefore, the disease cannot be caused by the agent alcohol alone, but rather by the way in which

the agent reacts in the body. This is why the author characterizes chemical dependence as a "Broken Filter Disease," like diabetes. In the disease paradigm, we describe the agent as drugs, the host as the individual, and the environment as the culture or community in which the individual lives.

We know that abuse alone, without the genetic predisposition, may produce serious damage or kill the individual, but by itself abuse will not produce the disease. Therefore, abuse alone will not produce the compulsivity or the other major symptoms of the disease of chemical dependence. Appreciating that variables such as age, sex, and choice of drugs, determine the rate and incidence of crossing the biogenetic wall, no alcoholic or drug addict can ever go back across that wall and become an abuser again, nor can the individual learn to drink socially. One hears of individuals who appear to drink or use addictively and then start drinking and using socially. However, these individuals are abusers rather than people suffering from the disease of chemical dependence.

With the genetic predisposition, the addict, the diseased individual, undergoes molecular depletion of the endorphin-enkephalin metabolism within the ancient, reptilian-derived survival hypothalamic brain, specifically within the MFB. During the diseased state, this survival brain (in which "concrete" thinking and instinctual behavior have been derived for survival of the species) undergoes depletion of the neuro-molecular system involving the neurotransmitters. Compulsive drug-taking, despite adverse consequences, is the only avenue of survival open to the non-recovering alcoholic or drug addict. This is the dynamic of compulsivity — the primary symptom of the disease and also the dynamic of the lethal nature of the disease.

There are millions of people in

The disease of alcoholism and other addictions has a genetic component. Evidence indicates that multiple chromosomes are involved.

this country who have the genetic predisposition, but who for cultural, health, personal, or religious reasons do not abuse, so they don't manifest the disease. If in later life they do abuse, they will manifest the disease.

Addiction often skips a generation in transmission. Eighty-seven percent (87%) of our first 1,000 chemically dependent physicians demonstrated the disease of addiction within the first two generations.

Approximately 55 years ago, the cofounders of AA, a physician and a stockbroker, recognized alcoholism as a primary illness with recovery contingent on total abstinence. Today, AA continues to be one of the most effective treatment modalities for this disease, particularly as it relates to long-term care.

Summary

Intensive work needs to continue on the genetic characteristics of the X-Y chromosome. There needs to be further clarification of the allele penetrants and the oncogenes, as well as determination of the specific chromosomes. It is now apparent that the neurotransmitters, particularly dopamine, serotonin, and norepinephrine, as related to the MFB receptor sites, are a determining factor in the presence or absence of this disease. However, the exact manner in which these neurotransmitters and receptor sites act, particularly in terms of the feedback systems, remains obscure.

New receptor sites are also being

discovered and additional neurotransmitter systems, such as the second messenger system, uncovered. It would be naive at this point to attempt to delineate specific receptor sites or neurotransmitter systems as the absolute determinant of the disease. However, the basic heuristic model accepted by the Georgia Impaired Health Professionals Program remains valid.

The heuristic model proposed in the past 15 years remains basically intact and valid. In this model, it is apparent that the essential disease criteria are fulfilled by alcohol and other drug addictions. Chemical dependency is a primary, psychosocial, biogenetic disease.

The American culture, however, often fails to appreciate the difference between controlled abusive use and the uncontrolled addictive user. They do not understand that controlled abusive use can lead to severe physical changes, even death. They are ignorant about the biogenetic components in the MFB, which dictate in the face of genetic predisposition the compulsivity of the disease. As alcohol and other drug addictions become more common, people continue to assign such misleading labels to the alcoholic and drug addict as weak willed, bad and evil. A diagnosis of mental illness, or primary psychiatric disease, is incorrect when assigned to the truly diseased alcohol or other drug addicted patient. False comparisons, denial, ignorance, bias, and prejudice play major roles in preventing many Americans from seeing chemical dependence as a true primary disease.

Review of the 2,700 physicians treated has demonstrated that the initial, most important factors in recovery are knowledge and acceptance of alcoholism and other drug addiction as a primary, psychosocial, biogenetic disease. Until patients were able to accept this disease precept, embarrassment,

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shame, and guilt fed into their denial process, preventing effective recovery. Seeing their compulsivity in the framework of biologic defect in the MFB with genetic predisposition is mandatory if the individual is to begin to establish an effective recovery process. Only then can the individual look at the disease precept and understand the paramount role of AA or Narcotics Anonymous (NA) in their recovery.

Our challenge remains to alert both the general population and our health professionals to the fact that addiction to alcohol and other drugs is truly a primary, psychosocial, biogenetic disease. Misinformation, lack of awareness, denial, and bias need to be overcome. Over 200 years ago, the words of Alexander Pope were truly prophetic as they now relate to the illness of alcoholism and other drug addictions: "To know ourselves diseased is half the cure."

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QUOTES

I ran from grief; grief ran and overtook me.

FRANCIS QUARLES: *Emblems, II, 1635*

Nature has given us life at interest like money, with no day fixed for repayment.

CICERO:

I thank God I am as honest as any man living that is an old man and no honestier than I.

SHAKESPEARE:

Much Ado About Nothing, III, c.

1599

The natural man has a difficult time getting along in this world. Half the people think he is a scoundrel because he is not a hypocrite.

E. W. HOWE: *Sinner Sermons, 1926*

Description: Yohimbine is a 3a-15a-20B-17a-hydroxy Yohimbine-16a-carboxylic acid methyl ester. The alkaloid is found in Rubaceae and related trees. Also in Rauwolfia Serpentina (L) Benth. Yohimbine is an indolalkylamine alkaloid with chemical similarity to reserpine. It is a crystalline powder, odorless. Each compressed tablet contains (1/12 gr.) 5.4 mg of Yohimbine Hydrochloride.

Action: Yohimbine blocks presynaptic alpha-2 adrenergic receptors. Its action on peripheral blood vessels resembles that of reserpine, though it is weaker and of short duration. Yohimbine's peripheral autonomic nervous system effect is to increase parasympathetic (cholinergic) and decrease sympathetic (adrenergic) activity. It is to be noted that in male sexual performance, erection is linked to cholinergic activity and to alpha-2 adrenergic blockade which may theoretically result in increased penile inflow, decreased penile outflow or both.

Yohimbine exerts a stimulating action on the mood and may increase anxiety. Such actions have not been adequately studied or related to dosage although they appear to require high doses of the drug. Yohimbine has a mild anti-diuretic action, probably via stimulation of hypothalamic centers and release of posterior pituitary hormone.

Reportedly, Yohimbine exerts no significant influence on cardiac stimulation and other effects mediated by B-adrenergic receptors, its effect on blood pressure, if any, would be to lower it; however no adequate studies are at hand to quantitate this effect in terms of Yohimbine dosage.

Indications: Yocon[®] is indicated as a sympatholytic and mydriatic. It may have activity as an aphrodisiac.

Contraindications: Renal diseases, and patient's sensitive to the drug. In view of the limited and inadequate information at hand, no precise tabulation can be offered of additional contraindications.

Warning: Generally, this drug is not proposed for use in females and certainly must not be used during pregnancy. Neither is this drug proposed for use in pediatric, geriatric or cardio-renal patients with gastric or duodenal ulcer history. Nor should it be used in conjunction with mood-modifying drugs such as antidepressants, or in psychiatric patients in general.

Adverse Reactions: Yohimbine readily penetrates the (CNS) and produces a complex pattern of responses in lower doses than required to produce peripheral a-adrenergic blockade. These include, anti-diuresis, a general picture of central excitation including elevation of blood pressure and heart rate, increased motor activity, irritability and tremor. Sweating, nausea and vomiting are common after parenteral administration of the drug.^{1,2} Also dizziness, headache, skin flushing reported when used orally.^{1,3}

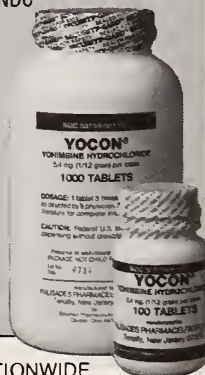
Dosage and Administration: Experimental dosage reported in treatment of erectile impotence.^{1,3,4} 1 tablet (5.4 mg) 3 times a day, to adult males taken orally. Occasional side effects reported with this dosage are nausea, dizziness or nervousness. In the event of side effects dosage to be reduced to 1/2 tablet 3 times a day, followed by gradual increases to 1 tablet 3 times a day. Reported therapy not more than 10 weeks.³

How Supplied: Oral tablets of Yocon[®] 1/12 gr. 5.4 mg in bottles of 100's NDC 53159-001-01 and 1000's NDC 53159-001-10.

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Georgia Alcohol and Drug Treatment Centers: Views of Their Directors

G. Douglas Talbott, M.D.

OVER THE PAST 2 decades, Georgia has seen the growth of several outstanding treatment facilities, which has allowed this state to assume national leadership in addiction treatment. We asked the directors of several of these treatment centers to discuss their views about the status of treatment for the addicted patient and their view of future developments. The following directors contributed information from which this article is derived: Charles Allard, M.D., Decatur Hospital, Decatur; James T. Alley, Alcohol and Drug Associates, Macon; Farrell Brazier, M.D., Ridgeview Institute, Smyrna; James L. Daniel, M.S., Gwinnett Treatment Center, Buford; Paul H. Earley, M.D., CPC, Parkwood Hospital, Atlanta; Michael C. Gordon, M.D., Brawner Psychiatric Hospital, Smyrna; Thomas J. Hester, Charter Peachford Hospital, Atlanta; and Richard J. Turner, M.D., Woodridge Hospital, Clayton.

Consensus was reached on the major problem areas which presently occur in the treatment cen-

All of the directors were distressed by the inability of health managers to dialogue with the treating physician about patient care.

ters. Paramount was the concern regarding managed health care. Widespread is the practice now that non-addiction medicine physicians are dictating the treatment course and length of stay for alcoholics and drug addicts. It is apparent that many of these individuals are not educated about the primary, psychosocial, biogenetic characteris-

tics of the disease of chemical dependence. Since their involvement has been predicated upon fiscal concerns, their decisions are based on minimal hospital stays. All of the directors were distressed by the inability of these health managers to dialogue with the treating physician about patient care. These health managers often based their decisions upon inadequate knowledge and biased attitudes. Several examples were given where non-medically trained individuals were rendering medical judgments and decisions which profoundly affected the patient. It was pointed out that this was reminiscent of the treatment decisions rendered by non-medically trained individuals in the employee assistance programs.

A second major concern pertained to insurance companies denying chemically dependent people adequate hospitalization, while there was inadequate or no coverage for outpatient services. Many of the directors felt this reflected a pu-

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nitive attitude toward the alcoholic and drug addict. Many of the interviews with health managers revealed their belief that addiction is self-induced, and moralistic and ethical attitudes were expressed. Once again, it became apparent there was no understanding of this illness in the biologic, genetic sense. One director stated that "the war on drugs" had become "the war on addicts," and this was one battlefield on which success would be limited or lost.

Another area of universal concern is for the underprivileged, the uninsured, and special populations such as pregnant addicts, addicts with contra-cultural sexual preferences, addicts with hearing difficulties, and addicts with AIDS. Treatment for these individuals has not been adequately funded, nor have they been adequately treated. Some of these problems have been attributable to ignorance and prejudice.

A fourth area of concern voiced by the directors was the attempt to demand fixed length of stays in the hospital for alcoholics and drug addicts with little realization of the varied courses which these diseases manifest in different individuals. Lack of treatment flexibility was described as a serious concern by these directors.

Dual diagnosis continues to be a growing concern to the addiction medicine specialist. Definition as to the primary problem, psychiatric or addictive, often requires time to delineate. Managed care companies requiring precertification, continued stay justifications, and often drastically shortened lengths of stay do not provide adequate time. These patients may at times be misdiagnosed and prescribed psychiatric medications which can have disastrous results.

Several of the directors mentioned their apprehension about the lack of understanding and treat-

One director stated that the "war on drugs" had become "the war on addicts," and this was one battlefield on which success would be limited or lost.

ment of the now recognized addictive diseases, such as nicotine addiction, gambling addiction, sexual addiction, workaholism, and eating disorders. These will be incorporated into the general addictive disease programs with special tracks addressing the specific issues. In the past, separate facilities have often been created to deal with these addictions. Future efforts address incorporating these special tracks into a general program with "break-out tracks" to deal with these issues.

In addition, problems in interpersonal relationships, such as codependence and adult children of alcoholic issues, need to be vigorously addressed. Yet many treatment centers continued to focus only on alcohol and other drug addictions, to their exclusion. The need to further define these entities and provide adequate treatment for these addictions was realized by many of the directors.

While the treatment center directors recognized their major problems, there was an air of optimism and excitement about their future course. One of the more promising events mentioned was the April 5, 1991, publication of the ASAM/NAATP placement criteria. Thirteen hundred (1,300) reviewers tested these documents at a conference held recently in Atlanta. Preliminary criteria and standards

are now available which can be utilized in treating the alcoholic and drug addict. These standards will have added value in establishing criteria for managed health care. Hopefully, they will lend credibility to flexible treatment lengths of stay and stem the monetary-driven fixed detoxification days which some of the managed health care companies are demanding.

Several of the directors commented on the use of multi-treatment combinations of hospitalization, inpatient, outpatient, and residential outpatient care to provide more effective treatment. It is apparent that the historical 28-day inpatient alcohol and drug treatment program is obsolete, as applied to all patients across the board. However, it is also apparent that time, as defined as healing time, plays a significant role in recovery. Utilizing the combinations, treatment can be provided for longer periods of time for the same treatment dollars as that of the old 28-day inpatient program.

Treatment outcome studies will also be used to provide gauges as to the effectiveness of varied treatment approaches. Such treatment outcome studies will allow a more individualized approach. These studies will also provide additional criteria, not only for the effectiveness of various programs, but also for the specific characterization of patients with dual diagnosis. Utilizing treatment outcome studies provides financial justification of the effectiveness of various treatment program modalities and will shed light on inpatient versus outpatient treatment. The length of stay in treatment can also be more accurately assessed with the treatment outcome studies.

Several directors discussed the future of the families impacting the treatment of the alcoholic and drug addict. Evidence to date has shown that involvement of the family in the

treatment process will shorten the time needed for treatment and improve the quality of recovery. With the clearer understanding of co-dependency in family members, the impact on the patient is impressively positive. In the future, the other disciplines of medicine treating illnesses such as cancer, stroke, and heart disease, will learn and benefit from the manner in which addiction medicine is using total family therapy.

Founded in June of 1935 by a physician and a stockbroker, Alcoholics Anonymous has proved to be the prototype of the self-help group. To date, over 110 self-help groups have sprung up for almost every kind of disease and dysfunctional behavior. The future of treatment center programs contains various methods of bonding patients with these self-help groups. The value of Alcoholics Anonymous in the role of long-term aftercare is now apparent, but it often takes specific approaches to lock these patients into bonding with the self-help group. The 12-step programs continue to form the treatment core of

Utilizing treatment outcome studies provides financial justification of the effectiveness of various treatment program modalities and will shed light on inpatient versus outpatient treatment.

many addictive disease center programs.

Several of the directors indicated their belief that future technology will improve and specifically will include more pharmacologic approaches to acute and protracted individual withdrawal states, more sophisticated relapse prevention technology, and increased utilization and incorporation of experiential therapy techniques.

In summary, the directors were acutely aware that the major industries in this country sensitive to rising health costs as their largest problem have turned to managed health care, demanding shorter hospital stays and fixed treatment programs. Punitive and moralistic views stigmatizing chemically dependent patients seemed to be present. The majority of the directors, however, were optimistic about the long-term future for the treatment of the diseases of alcoholism and drug addiction, as more knowledge is gained and the public better educated. It was their general feeling that the public opinion pendulum regarding the diseases of addiction would swing back, and the disease model would replace the moralistic models of today. New, innovative, multi-disciplinary treatment programs would then result in a higher recovery rate for the alcoholic and drug addict. Many of the new innovative programs involving self-help groups, experiential therapy, and advanced and holistic family therapy would serve as a model for the treatment of other diseases in the future.

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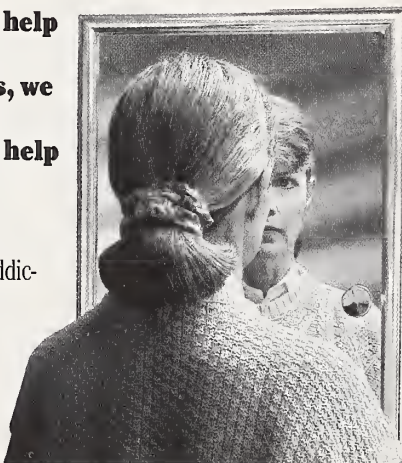
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just like a cancer or diabetes patient. It is not the result of a moral weakness that should be controlled by willpower alone. We know how it feels to try and fail. Or to be too afraid to try at all.

Often the addiction is a response to other problems,

and other people may be involved. It is best solved when you understand the relationship of everyone involved.

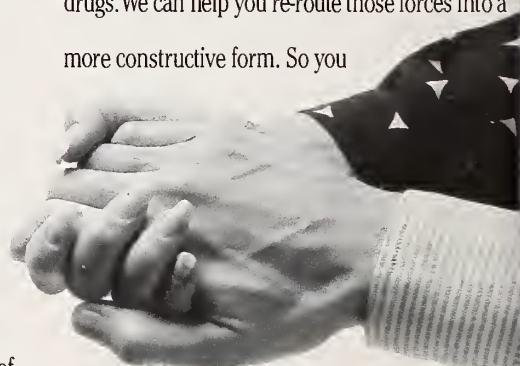
We can show you how to



understand those relationships and handle your problems constructively.

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The Georgia Impaired Physicians Program

John Lenton, M.D.

The Georgia Program is a voluntary one, with no enforcement powers or disciplinary authority and is independent from the Composite State Board of Medical Examiners.

powers or disciplinary authority and is independent from the Composite State Board of Medical Examiners. While the Program offers guidance and assistance to impaired physicians in matters of therapeutic intervention and continuing care, it does not and cannot shield them from the consequences of illegal activities or incompetency.

In the early 1970s, the American Medical Association and several state component societies became

active in the movement to help "impaired" physicians. Initially these activities were called "disabled doctor programs." In Georgia, MAG appointed a committee of dedicated and concerned physicians who undertook the Sisyphean task of receiving reports from impaired practitioners' family members, colleagues, and other sources; arranging and/or conducting interventions; and referral to appropriate treatment. In this fashion, the committee had steered some 300 Georgia doctors into rehabilitation by 1990 — a commendable record — but the scope of the problem surpasses what can be reasonably expected of, or accomplished by, a volunteer group whose primary responsibilities lie elsewhere.

In recent years, several phenomena have dictated significant changes and refinements in the Georgia Program, e.g., heightened sensitivity of the public to issues of professional impairment, the adoption of hospital programs addressing staff impairment as a function of quality assurance and peer re-

THE PURPOSE of Georgia's Impaired Physicians Program is primarily to protect the public from potential harm. Secondly, restoration of impaired physicians to productive practice when possible is vigorously pursued. On the other hand, those who cannot be rehabilitated need consideration and assistance in their transition to alternative occupations or retirement. Three areas of impairment are addressed by the Georgia Program: 1) substance use disorders, 2) mental illness, and 3) debilitating physical illness. Substance use disorders account for the majority of impairment problems, and the incidence in physicians is estimated to be about double that in the general population (ie, 10 percent -vs- 5 percent). The exact reasons for this bias are obscure; however, unusual stresses accompanying medical practice, availability of psychotropic drugs, and genetic predisposition have all been advanced as putative risk factors.

The Georgia Program is a voluntary one, with no enforcement

Dr. Lenton is Medical Director of Georgia's Impaired Physicians Program.

view, and increasing regulatory activity by State and Federal agencies — events which increase the need for services to the public and physicians alike if our profession is to meet its obligations and to maintain credibility.

Moving to address current and future imperatives, in 1990 MAG hired a part-time medical director experienced in addiction medicine and program administration to further develop and implement the Impaired Physicians Program. The goals for the immediate future are to become effective in identifying impaired physicians, to expand and improve the intervention process, and to become more effectively involved in monitoring aftercare and providing advocacy for recovering physicians.

The Program essentially addresses quality assurance and risk management issues and can act as a central "clearing house" in matters of physician impairment, assuming that there is, or will be, widespread support by Georgia's physicians, hospitals, and the Composite Board of Medical Examiners.

Regulatory agencies, by their very nature, do not address physician impairment issues therapeutically,

The Program essentially addresses quality assurance and risk management issues and can act as a central "clearinghouse" in matters of physician impairment.

although this is changing in some states. More often, the licensing agencies are limited in their actions to disciplinary measures, such as reprimands, suspensions, or revocation of licensure. Rightly or not, such actions are often perceived as being unduly punitive. The AMA has drafted model legislation which, if adopted, would expand licensing boards' options so that impairment could be addressed more therapeutically. This approach has been very successful in Florida, for example, and was made possible by legislative changes. The Georgia Code does not provide options such as those recommended by the AMA, and new legislation would be required to effect such change.

Experience has shown, to date,

that it is unrealistic to expect that the committee or its medical director can, unaided, significantly impact the *status quo* regarding attitudes or reactions toward impaired physicians in Georgia. There needs to be some middle ground between "crime and punishment" and "illness and recovery." In closing, I quote Janice J. Robertson (formerly Administrator, AMA Physician Assistance Program):

"In reflecting on what has transpired during this past decade, I suspect that future program success will depend heavily on three elements; continued collaboration and cooperation among health professions, the forging and maintenance of strong links between the medical society and the medical board, and program promotion. It is the latter element that I think will be the key to program survival as well. Those who have been helped by these programs need to communicate their success to their state's leadership. They need to show that these programs really do make a difference."¹

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Codependency: The Legacy of the Dysfunctional Family

Katherine W. McCullough, M.S., L.P.C., C.A.C.

Codependency is the loss of self — a spiritual disconnection resulting from the trauma of inadequate or insufficient parenting.

CODEPENDENCY is a word that is heard with increasing frequency these days, and yet it has as many definitions and connotations as there are people using the term. Different authors have approached the subject from various angles — some taking a behavioral perspective and others taking an historical perspective. The information presented here is intended as a broad overview of the subject, tying together the following concepts: definition, adult characteristics, parental interactions, parental deficits, guilt/shame, and recovery. These aspects together are the most important pieces of the codependency puzzle. The definition provides a working model for understanding the bigger picture, and places the concept of codependency within the context of addiction. The section on the adult characteristics describes the symptoms as they present in the here and now. It is a look at codependency in the present — the behavioral perspective. The sections on parental

interactions and parental deficits provide the basis for an interactional explanation of the etiology of codependence. They are a look at codependency in the past — the historical perspective. The discussion of guilt/shame focuses on particular emotional scars that this past produces. The final section on recovery is a look at the future. There is a wealth of literature on codependency, what it is behaviorally

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and where it comes from historically, but little has been written about what to do with it and how to treat it.

Definition

Many definitions of codependency include a description of a behavioral pattern. There has also been an ongoing attempt to include codependency in the next edition of the Diagnostic and Statistical Manual of Mental Disorders and much work has been done to list the diagnostic criteria in that format. Cermak has proposed diagnostic criteria in his book *Diagnosing and Treating Co-Dependence*.¹ The question, however, is "Is a description of what codependence looks like the same thing as a definition?". It is certainly part of the whole, but it doesn't address the other important question — "What is it?".

At its very basis, codependency is the loss of self — a spiritual disconnection resulting from the trauma of inadequate or insuffi-

cient parenting. This trauma can be of a physical, sexual, emotional, or spiritual nature. It creates the experience of a void within the child that grows over time. Many alcoholics and addicts talk about trying to fill with alcohol and drugs the "hole" that they experience in themselves. It is this "hole" that fuels the addictions.

The child who grows up in the presence of physical, sexual, emotional, or spiritual trauma will develop emotional defenses against that trauma. Without conscious knowledge of what fuels his/her behavior, that child may first use food as a way to affect the neurotransmitters that alter his/her mood. A child will unconsciously learn to alter his/her biochemistry in ways that temporarily seem to fill the void and ease the pain. As the child matures, other opportunities present themselves: exercise, alcohol, drugs, sex, relationships, religion, shoplifting, gambling, emotional outbursts, or living on the edge. All of these behaviors affect the neurotransmitters in some fashion and consequently, if the genetic predisposition is present, have the potential to develop into addictions. Inadequate or insufficient parenting, then, produces the disconnection from self, causing the development of compensatory behaviors, which in the presence of a genetic predisposition result in addiction.

Adult Characteristics of Codependence

As a group, codependents possess certain recognizable characteristics that develop in reaction to the dysfunction that existed around them as children. Instead of a sense of self-esteem, they have "other-esteem" where they get their sense of worth from people, places, and things outside themselves. This external referencing makes them very concerned about what others think about them. They easily take on the feelings of those around them, and

Inadequate or insufficient parenting produces the disconnection from self, causing the development of compensatory behaviors, which in the presence of a genetic predisposition result in addiction.

they become involved in the pain of others, finding it difficult to separate their issues from those around them.

Under the guise of being helpful, codependents try to make themselves indispensable. Many times they do for others what would better be left to the other person to do. Out of a deep seated need to be needed, the codependent tries to be all things to all people, rarely acknowledging his/her own suffering. Consequently, the role of the codependent in a relationship tends to be that of the martyr/saint that enables the partner to be dysfunctional, i.e., the alcoholic marriage.

Codependents as a group have a unique relationship with feelings. In general, they are either out of touch with their own feelings or may experience difficulty in identifying specific feelings. Understanding how others feel causes them to invalidate their own emotional reality. Therefore, over time they get farther and farther out of touch with their own feelings, and fill that vacuum with the emotional reality of those around them. This whole process is often disguised as "I really feel for you," and the codependent deludes him/herself that this "empathy" is living. Experiencing life vicariously through others' feelings becomes the codepen-

dent's whole life and rarely does he/she experience life directly.

At the core of the codependent behavior is fear, but this fear is masked by so many layers of thought and behavior that is not consciously accessible. This fear, however, leads to rigid controlling behavior in an attempt to hold onto a delusional, unrealistic picture of life. Codependents use control the same way that alcoholics/addicts use their drug of choice, i.e., to deal with their fear, insecurity, and inadequacy. Codependents believe that they should be able to control everything. At the core of their controlling behavior lies the fear that ultimately if "I don't do it, it won't be done right, and I may not survive." This rigidity leads to a judgmentalism that makes intimate interpersonal relationships extremely difficult.

It is the struggle to achieve and maintain functional, intimate interpersonal relationships that frequently is the impetus for the codependent to begin the painful journey into his/her past to find clues as to "why" he/she keeps repeating self-defeating patterns in adulthood. Relationship difficulty is one warning sign, but left untreated, codependence continues to produce other debilitating and devastating consequences. Physically, the codependent may begin to develop ulcers, small bowel inflammation, headaches, hypertension, and insomnia, to mention a few. Emotionally, he/she may enter into a depressive episode that affects other significant areas of his/her life. The final area that seems to be affected is the codependent's job, and ultimately absenteeism due to physical and emotional illness result in demotion, lack of advancement, or job loss.

Parental Interactions

It is the past that contains the keys to understanding the adult behavior. Pia Mellody² suggests that

all children are born into the world possessing five characteristics: 1) value 2) vulnerability 3) imperfection 4) dependency 5) immaturity. In the course of growing up in a functional home, the child would be given the opportunity to develop into an adult capable of healthy relationships.

An interactional model suggests that each child needs to have healthy interactions with his/her parents. Several analytic authors discuss the interactional nature of child development, D.W. Winnicott,^{3,4} most notably. Al and Diane Pesso⁵ further write of essential "parenting functions" which must be met for normal development. Dr. Jacque Damgaard^{6,7} has expanded the concept of parenting functions and developed a clinical model for the diagnosis and treatment of parenting deficits. For simplicity, identified here are eight basic parental interactions that every child needs in order to incorporate positive messages into his/her internal reality, and develop a healthy internal parental ego state. As a child experiences a satisfying interaction with his/her parent, it becomes encoded as a positive message about him/herself and his/her needs and wants. The positive interaction produces a positive ego message that is internally recorded. If these important parental interactions do not occur, the child experiences a loss and the development of his/her parental ego state will be incomplete. The lack of a satisfying interaction becomes encoded as a negative message about him/herself and his/her needs and wants.

The first of these necessary parental interactions is to feel a sense of belonging. If a child's need to belong is met, he/she incorporates at a very deep level the message, "You have a special place in my heart." The second interaction is nurturance, and if this need is met, the child gets the message, "It's okay to need nurturing and I'll provide it

Instead of a sense of self-esteem, codependents have "other esteem" where they get their sense of worth from people, places, and things outside themselves. This external referencing makes them very concerned about what others think about them.

for you." Support is the third basic interaction, and it is critical if the child is to develop problem-solving skills and learn how to take risks. The message here is that, "It's okay to try something new or different. We support you and are here for you." Protection is the fourth necessary interaction. If his/her parents provide proper protection, the child gets the message that, "It's okay to be afraid. I'll protect you. You are safe." The fifth interaction is providing structure, appropriate behavioral limits. From this comes the message: "I'll provide rules and limits so it's safe for you to be a child and focus on growing up." Containment, the sixth interaction is related to, but slightly different from, structure. Every child needs to learn how to manage his/her emotional expression. It's important to learn that the feelings he/she has are acceptable to the family. This need, if met, gives the message, "Your feelings are all okay with me, and I can interact with them and keep you safe." The seventh interaction, respect, is critical if the child is to get the message that, "You have a right to be yourself and it's okay to be separate from me." The last interaction, bonding, provides

the child with a model of what being in a relationship means. By watching a healthy parental bond, the child gets the message, "We're connected and, though you are important to me, you are not more important to me than my spouse."

Over time, through countless interactions with his/her parents, a child begins to form a picture of what being in the world means. If the above interactions occur, and the positive messages are internalized, then the child can meet the world feeling confident, and possessing the skills to be successful.

Parental Deficits

Unfortunately, ideal parents who can provide all these interactions perfectly do not exist. In alcoholic/addictive homes where that valuable, vulnerable, imperfect, dependent and immature child experiences trauma, healthy development is impossible. Trauma includes what is generally considered "abuse," but also encompasses more than that. Overt abuse — incest, beatings, and verbal tirades — are all accepted as abusive. Many, however, do not realize that watching a family member receive a beating, or hearing a parent or sibling being beaten, even if it's heard through a wall, is just as abusive as if the beating had been directly inflicted. Sexual innuendoes and inappropriate sexual comments in the home can be as damaging to a child's sexual/emotional development as actual incest. The covert abuse is often more difficult to identify because as an adult he/she will tend to discount and deny that anything damaging had occurred.

The absence of the necessary parental interactions is also experienced by the child as traumatic. A child growing up in a family without adequate support and/or nurturance may internalize the messages "Be strong," "Be perfect," and "It's not okay to make a mistake." Even in the absence of the more overt

types of abuse, a child who grows up in this kind of perfectionistic family, with these injunctions, will in all likelihood develop into the codependent adult. If to be human is to be imperfect and to make mistakes, dysfunctional families require us to disconnect from imperfection, from our humanity, in order to be okay. To disconnect from our humanity is spiritual abuse.

Pia Mellody² offers one explanation of what can happen as a result of the abuse, whether physical, sexual, emotional, spiritual, overt or covert. The valuable child becomes "better than" or "less than." The vulnerable child becomes "too vulnerable" or "invulnerable." The imperfect child becomes either "bad/rebellious" or "good/perfect." The dependent child becomes either "too dependent" or "needless/wantless," and the immature child becomes either "extremely immature and chaotic" or "overmature and controlling."

Guilt/Shame

No paper on codependency would be complete without a discussion on guilt and shame. Guilt is distinguished from shame in that guilt is about behavior, and shame is about the person. Having explored the subject of codependency within an interactional model, the concepts of guilt and shame can be examined in that same context. If the child has experienced enough satisfying parental interactions to develop ego boundaries, then the confrontation of acting-out or self-defeating behaviors produces the message that, "I made a mistake," and guilt is the resulting feeling. If the child has not experienced enough satisfying parental interactions, then that same confrontation produces the message, "I am a mistake," and shame is the resulting feeling. The shame that results from the trauma of in-

Codependents as a group have a unique relationship with feelings. In general, they are either out of touch with their own feelings or may experience difficulty in identifying specific feelings.

adequate parenting becomes the core of the child's being. "I am not okay" becomes the child's core belief. As that shame core solidifies, the pain of it becomes the catalyst for the disconnection from self, producing the void that becomes the breeding ground for addiction. The cycle continues as the child becomes the adult and is incapable of healthy parenting and another generation of wounded children struggle to find a place in the world.

Recovery

As more and more attention is being focused on addiction and codependency, the chance for breaking the intergenerational pattern increases. As our understanding and acceptance of codependency increases, so will our ability to effectively treat the addictions that manifest from it. Recovery must be approached in stages. Initially, if the codependent is experiencing severe dysfunction in his/her life, a period of inpatient, or intensive outpatient, treatment, may be necessary. The first stage requires that boundaries be placed around the addiction, either by treatment or by participation in Twelve Step recovery programs. Once a Twelve Step program is in place, then therapy

becomes the second stage. During this stage, continued participation in the Twelve Step program is critical. A period of time in individual therapy may be necessary to provide a sense of safety for the codependent and to help develop enough ego strength to make the transition to group psychotherapy, the final stage. This final stage, because it is interactional, can address the parental deficits experienced in the family of origin. In the interactional clinical model that Dr. Damgaard^{7,8} teaches, the parental deficits are addressed symbolically in group and a process of re-parenting begins to take place. This re-parenting process involves a confrontation of the internalized negative messages and the replacement of the negative messages with positive messages. This process requires time and a commitment to experience the pain that had been avoided in the past by practicing the addiction. The journey is often difficult and painful, but recovery means more than abstinence as any alcoholic/addict/codependent knows. Recovery means freedom. The third promise of AA says it all: "We will comprehend the word serenity and we will know peace."

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The Women's Place: Caring for Addicted Pregnant Women

Carolyn A. Martin, Ph.D., John A. Rafter, Ph.D.

THE ONLY LONG-TERM residential program for chemically dependent pregnant women in Georgia, The Women's Place, on March 5, 1990, opened a 6-bed facility in Statesboro for women in the 16 counties of the Southeast Health Unit. Potential patients are identified through contacts in the community and with other agencies and followed from that point. Eligible women, after inpatient treatment, are screened for admission. Since they may remain up to 3 months after delivery, time in treatment in this 24-hour facility has varied from 3 to 10 months.

Private physicians provide obstetrical care through Medicaid. WIC coupons and Food Stamps augment the women's food budget. Community health care and social services are accessed by a case manager; transportation and care of infants are also provided while women are in this program.

The Women's Place addiction treatment model has been devel-

This new program for pregnant substance abusers and their infants fills a gap in the treatment of this special population in rural Georgia.

oped in partnership with the patients and consists of (1) intervention activities (such as, individual, group, and family counseling and 12-step program) to help them recover from addiction and (2) prevention activities (such as, training in the LaMaze method of childbirth, smoking cessation, nutrition, child development and care, basic education, money management, and evaluation for job training) to help

Dr. Martin is Director of The Women's Place, Southeast Health Unit Annex, 516 Gentilly, Statesboro, GA 30458. (Send reprint requests to her.) Dr. Rafter is Associate Professor of Mathematics and Computer Science, Georgia Southern University.

change their perspective and lifestyle. Staff members work in partnership with probation and parole officers to maximize motivation for treatment rather than jail.

Compassionate and strong women, many of whom are recovering from addiction, guide these patients in learning to cope with the reality of their world without resorting to chemicals to "take the edge off." Patients also learn how to access resources available to them. The Women's Place provides a structured therapeutic environment as well as offering remedial and prevention activities. At discharge patients have a plan to help them make the transition to their community.

Since opening, The Women's Place has admitted 12 women and delivered 8 babies, all full-term. Four were delivered by Caesarean Section. At birth, one infant was of low birth weight, and one had a cyst on a kidney; others had no obvious abnormalities or signs of developmental delay. The pregnancy out-

come is of great importance to this program but the major focus is on the women, helping them to become responsible mothers and eventually self-supporting. To do this, they are taught to consider public assistance programs as interim measures.

Detailed program and outcome evaluation is mandated by the demonstration grant from OSAP (Office of Substance Abuse Prevention) and directed by a consultant from Georgia Southern University. Mothers and infants are monitored for 2 years following delivery. Medical status,

abstinence status, and quality of life will be measured by extensive personal interviews and standardized tests. Infants are evaluated by pediatricians at birth and followed by The State Comprehensive Evaluation Team, a Mental Retardation service at both Pineland and Satilla Mental Health Centers.

It is rare to find the quality of cooperation between the public and private sector and among the many social service agencies that is apparent in this area of Georgia. Patients and clients are the real beneficiaries of the changes in the

delivery of care. They continue to give feedback to treatment providers here on what works best for them and are primary resources for the development of these new programs. Graduates of The Women's Place Program help professionals design effective transition activities needed for them to return successfully to the community and to pass on to others what they have received. This special population has a contribution to make once they become abstinent, progressively honest, and begin to grow emotionally and spiritually.

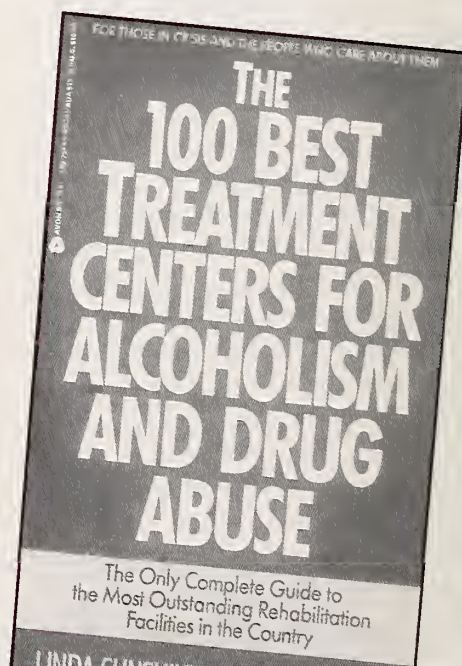
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Cottonwood Centers, Arizona	Scripps Memorial Hospital (McDonald Center), California
Edgehill, Newport, Rhode Island	St. Mary's, Minnesota
Father Martin's, Ashley, Maryland	Twin Town, Minnesota
Gateway Rehabilitation Center, Pennsylvania	Valley Hope Centers, Kansas
Hanley Hazelden at St. Mary's, Florida	Willingway Hospital, Georgia
Henry Ford Medical Center, Michigan	
Little Hill—Alina Lodge (extended care), New Jersey	

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Public Hospital Immunity Strengthened by Recent Georgia Case

Robert N. Berg

THE DOCTRINE of governmental or sovereign immunity ("sovereign immunity") is deceptively simple in concept — a governmental agency or instrumentality, exercising a purely governmental function, may not be sued for negligence or other types of tort actions. Despite its simplicity in design, however, the doctrine of sovereign immunity has proved to be extremely difficult in practice to apply. Many questions have arisen, ranging from the types of entities which may benefit from the sovereign immunity protection, to even more complicated questions involving whether or not the sovereign immunity has been waived.

Recently, two cases involving sovereign immunity issues were decided by the full Georgia Court of Appeals. In one case, an action was brought by a child against the Hospital Authority of Fulton County d/b/a Northside Hospital (the "Hospital Authority") and others, asserting claims arising out of the allegedly negligent acts of the defendants during the child's birth.¹ In the second case, a couple brought a professional negligence claim against the Hospital Authority and a physician, arising out of the performance of a surgical procedure on the husband.² In each case, the trial court denied the Hospital Authority's motion for summary judgment, finding that the Hospital Authority was not entitled, as a matter of law, to sovereign immunity. The Georgia Court of Ap-

‘Despite its simplicity in design, the doctrine of sovereign immunity has proved to be extremely difficult in practice to apply.’

peals authorized interlocutory appeals from both orders and consolidated the cases for review.

Sovereign Immunity for Hospital Authorities

The Court commenced its analysis by noting that the extent to which hospital authorities are entitled to the defense of sovereign immunity is an "unsettled issue" in Georgia. Historically, Georgia courts viewed the preservation of public health as the duty of the State as a sovereign power; the delegation of that obligation to counties (and specifically to county hospital authorities) required those counties to discharge purely governmental functions. Accordingly, courts found that "maintaining and operating a hospital under such delegated authority, not for profit, is in the exercise of a governmental function and is not subject to suit in a tort action."³ Thus, the doctrine

of sovereign immunity, applied to hospitals, was created.

However, subsequent judicial holdings established that a government instrumentality, such as a hospital authority, could waive its rights to the defense of sovereign immunity, under various circumstances. In particular, it was held on several occasions that, where the statutory provisions creating hospital authorities authorized those governmental bodies to "sue and be sued," that constituted an express waiver of the sovereign immunity which otherwise would be available to hospital authorities.⁴ In 1989, however, the Georgia Supreme Court reversed its interpretation of the "sue and be sued" language, ruling that "in any instances in which an entity is given the power 'to sue and be sued,' that language means only that the entity has the status and capacity to enter our courts, and does not signify a waiver of sovereign immunity against suit."⁵

Moreover, the doctrine of sovereign immunity gained constitutional status, most recently in the 1983 Georgia Constitution, which extended sovereign immunity to the State and its "departments and agencies."⁶ Recent cases have held this constitutional provision to apply to counties and county hospital authorities, as well.⁷

Retroactive Application of Sovereign Immunity Protection

With this as background, it would appear clear that the Hospital Au-

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thority in the subject cases was entitled to sovereign immunity. The Hospital Authority was an agency or instrumentality of Fulton County, and operated primarily for the benefit of the public, rather than for the generation of revenue for the County. Indeed, the Court of Appeals had little difficulty in reaching that point in its analysis. The more difficult issue, however, arose out of the fact that the subject actions were filed in 1987, two years before the decision by the Georgia Supreme Court holding that the "sue and be sued" language did not waive a governmental agency's right to sovereign immunity. In other words, the "law" in existence at the time the suits were filed arguably would have resulted in a holding against the Hospital Authority on the issue of sovereign immunity — the Hospital Authority, having the statutory power to "sue and be sued," would have been found to have waived its sovereign immunity. Alternatively, the "law" in effect subsequently, at the time of the Court of Appeals' decision, would have resulted in a decision in favor of the Hospital Authority, the Supreme Court having reversed its view of the "sue and be sued" language. Accordingly, the critical issue facing the Court of Appeals was whether it should apply the existing law retroactively, and on this point the members of the Court of Appeals disagreed.

The majority of the Court of Appeals found that the existing law should be applied retroactively, thus finding that the "sue and be sued" language did not result in a waiver of the Hospital Authority's sovereign immunity. Applying a complicated "three-pronged test" mandated by the Georgia Supreme Court, the Court of Appeals found that the 1989 ruling by the Supreme Court did overrule existing precedent; that the effect of the Supreme Court's 1989 ruling was to further

‘The Court of Appeals’ decision is a significant development in the sovereign immunity area, and, if not reversed on appeal, clearly provides public hospitals with significant liability protection.’

the purpose of sovereign immunity (protection of the public treasury), such that retroactive application would also further public purposes; and, that retroactive application would not result in an "ex post facto" deprivation of vested rights. Two justices of the Court of Appeals disagreed, contending that the 1989 reversal by the Supreme Court on the sovereign immunity waiver issue should be applied prospectively only, in order to avoid depriving the plaintiffs and others of important vested rights.

Waiver of Sovereign Immunity Defense

The Court of Appeals then faced the question of whether the Hospital Authority had waived its right to sovereign immunity. In particular, the Court looked at two potential types of waiver, both set out in the Georgia Constitution:⁸ (1) waiver of sovereign immunity resulting from an action for breach of a written contract, and (2) waiver of sovereign immunity "for any claim . . . for which liability insurance protection for such claims has been provided, but only to the extent of any liability insurance provided."

As far as the breach of contract waiver, the Court found that there was no *written* contract which obligated the Hospital Authority to provide professional or other serv-

ices. Although the Court recognized the argument that the existence of the physician/patient relationship might give rise to an *implied* contract, it noted that the constitutional waiver applies only to written contracts. Accordingly, the Court summarily dismissed this argument.

The more difficult argument involved the claim that the Hospital Authority waived its sovereign immunity by maintaining \$3 million of malpractice and comprehensive general liability "self-insurance." Although the Hospital Authority's program was designed to replace traditional liability insurance, it was not, in the Court of Appeals' view, a "self-insurance fund" which would result in the waiver of the Hospital Authority's sovereign immunity.

Important to the Court were the facts that the Hospital Authority paid no premiums for its coverage; no commercial liability carrier or policy was involved; and, no portion of the risk was distributed to or assumed by any other party. Moreover, the Court was persuaded by a recent Georgia Supreme Court case⁹ holding that counties were not authorized to establish "self-insurance" funds. Logically, according to the Court of Appeals, if a county is not entitled to establish a self-insurance fund, then it cannot be found to have waived sovereign immunity by establishing something which, by definition, cannot be self-insurance.

Conclusion

The Court of Appeals' decision is a significant development in the sovereign immunity area, and, if not reversed on appeal, clearly provides public hospitals with significant liability protection. Decisions rendered by the Georgia Court of Appeals are subject to appeal to the Supreme Court of Georgia, however, which has the power to affirm or reverse the decision of the lower

court, in whole or in part, with or without comment. Accordingly, it is quite possible that the opinion discussed in this article, although representing the current state of the law in Georgia, may be substantially altered or modified by the Supreme Court. We will continue to follow these cases, and inform you of any subsequent decisions, if and when reached by the Supreme

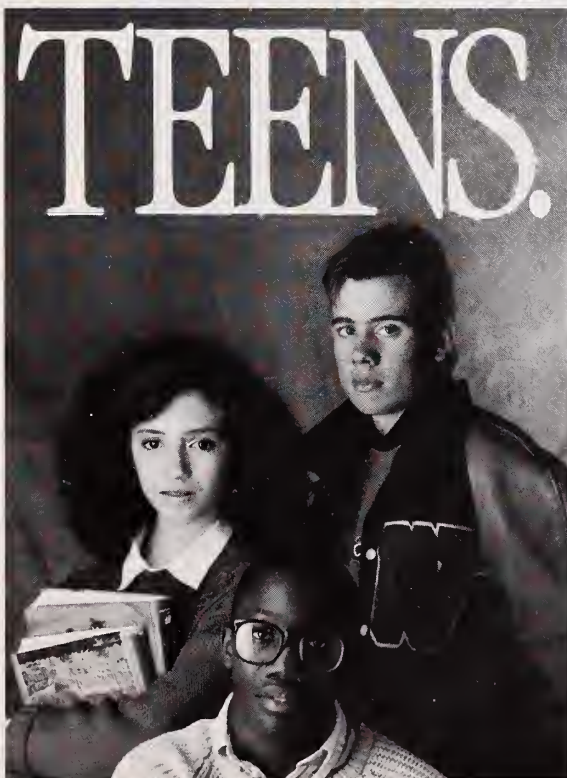
Court, in a subsequent Legal Section article.

Notes

1. *Hospital Authority of Fulton County v. Litterilla*, ____Ga.App. ____, Case No. A90A1553 (March 8, 1991).
2. *Hospital Authority of Fulton County v. Hyde*, ____Ga.App. ____, Case No. A90A1814 (March 8, 1991).
3. *Hall v. Hospital Authority of Floyd County*, 93 Ga.App. 319, 321, 91 S.E.2d 530 (1956).

4. See, e.g., *Medical Center Hospital Authority v. Andrews*, 250 Ga. 424(1), 297 S.E.2d 28 (1982).
5. *Self v. City of Atlanta*, 259 Ga. 78, 80(1), 377 S.E.2d 674 (1989).
6. 1983 Georgia Constitution, Art. I, Sec. II, Par. IX.
7. See, e.g., *Toombs County v. O'Neal*, 254 Ga. 390, 330 S.E.2d 95 (1985); *Ward v. Bullock County*, 258 Ga. 92, 365 S.E.2d 440 (1988).
8. See Note 6, *supra*.
9. *Logue v. Wright*, 260 Ga. 206, 392 S.E.2d 235 (1990).

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Familial Gynecologic Malignancies

Stephen M. Mintz, M.D.

TODAY'S PUBLIC media helps to draw attention to current health topics. Most of us or our own patients have seen or heard about the death of Gilda Radnor from ovarian cancer. Following her death, her husband, Gene Wilder, was on many ads and public announcements recommending ultrasonography and CA 125 testing. Although ovarian cancer is the only gynecologic cancer with an exhibited familial pattern, the recommendations regarding familial testing need to be reviewed because of the costs involved and the significant anxiety testing produces.

It is very important to remember to screen for all gynecologic malignancies. In 1990, the estimates of gynecologic malignancies among American women were 13,200 cervical, 33,000 uterine, and 20,500 ovarian. Since 60% of all gynecologic malignancies are non-ovarian, we must not lose sight of the importance of screening for all GYN malignancies.

A National Tumor Registry was begun through the Gilda Radnor Foundation to screen patients for familial ovarian malignancies. The following guidelines were recently established:

A woman with two first degree relations who have had cancer (sister or mother or two sisters) will have a 50% chance of developing ovarian malignancy and should have her ovaries removed as soon as feasible after childbirth.

A woman with one first degree relative or two aunts on the ma-

‘The fallacy at this time with CA 125 blood level and endovaginal ultrasonography is that they have not been shown to improve significantly early detection.’

ternal side who have had cancer should be screened periodically. Currently, the screening is recommended for every 6 months to consist of CA 125 blood levels, endovaginal ultrasonography, and a pelvic exam.

The most important factor today in outcome of and survival from ovarian cancer is early detection and treatment. The fallacy at this time with CA 125 blood level and endovaginal ultrasonography is they have not been shown to significantly improve early detection. However, studies are ongoing, and there is some research being done on a promising new technique of color doppler endovaginal ultrasonography for early detection of ovarian cancer. It is hoped that will prove to be successful and affordable.

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This article was prepared at the request of the American Cancer Society.

The financial aspect of these screening exams is not inconsequential. Not too long ago we were under intense pressure to reduce the frequency of Pap smears, a test within the \$15-\$25 range, because the overall costs were not felt to justify the savings of early diagnosis. Currently, endovaginal ultrasonography ranges from \$150-\$300; measuring CA 125 levels costs approximately \$56. This can amount to \$412-\$712 per year for each patient being screened. We hope to find a more successful and less expensive method of screening in the near future.

We must reassure our patients that at present there is not a proven familial association in cervical or uterine cancers. At the same time, we must continue our screening procedures (pap smears, pelvic exams, endometrial biopsies) continue teaching patients about the early warning signs of cancer.

In conclusion, I would again like to remind all of our primary care OB-GYN physicians of the need to follow current recommended guidelines for cancer screening and detection. We do not want to miss any GYN malignancies by being afraid of costs involved. Therefore, we need to continue with the aforementioned screening tests including the CA 125 and endovaginal ultrasonography as recommended and hope that we can continue to serve our patients in the best possible way. At the same time, we must continue to press for better and earlier detection of all gynecologic malignancies.

Physician's Recognition Award Recipients

LISTED BELOW are those physicians in Georgia who have earned the AMA's Physicians Recognition Award (PRA) from October through December, 1990, and January through March, 1991.

The award was established by the AMA House of Delegates in 1968 "To recognize, encourage, and support physicians who participate regularly in continuing medical education and to emphasize the importance of developing more meaningful continuing medical education opportunities for physicians." A minimum of 150 credit hours of CME must be earned over a 3-year period to qualify for the Award. The hours may include such activities as conferences, residencies, teaching, writing, private reading, listening to cassettes, home study courses, consultation, and peer review, at least 60 of the hours, however, must be from formal CME programs sponsored or cosponsored for Category I credit by organizations accredited for these activities.

We can congratulate the following physicians who have distinguished themselves and their profession by their commitment to continuing education:

Oct-Dec, 1990

Thomas M. Aaberg, *Atlanta*
Emile Glines Abbott, *Conyers*
James Wesley Akin, *Martinez*
Mario Hernandez Alvarado,
Hinesville

Larry Wilson Anthony, *Fort Valley*
Thomas Seymour Arnold, *Augusta*
Mohammad Arshad, *Forest Park*
Joel Edward Berenson, *Atlanta*
Charles Frederick Berg,
Woodstock

John Franklin Bigger, *Augusta*
Stephen Boyle, *Conyers*
Danny Joe Bramlett, *Thomaston*
James Willie Branam, *Macon*
Jimmy Sheppard Brown, *Norcross*
Francis Benedict Buda, *Atlanta*
Miriam Walker Chambless,
Hamilton

Robert Evan Chandlee, *Austell*
Warren Upton Clary, *Savannah*
Ruth Partin Clemens, *Alpharetta*
David Lawrence Cooper,
Riverdale

Floyd R. Cooper, *East Point*
John Marvin Crymes, *Athens*
Jayaprakash Desai,
Lawrenceville

Rajendra C. Desai, *Lithia Springs*
Rekha Jayaprakash Desai,
Lawrenceville

Bryon Harrison Dunn, *Conyers*
Marshall Finley Eidex, *Decatur*
Dean Cook Elliott, *Augusta*
Mehmet Erhan Ercan, *Canton*
Harry Harper Ferran, *Gainesville*
Frederick Charles Flandry,
Columbus

Henry Jack Ford, *Milledgeville*
Milton Fried, *Atlanta*

Stefan Helmut Fromm, *Dalton*
Henry Frysh, *Marietta*
John Richard Gato, *Marietta*
Charles Robert Gershon, *Atlanta*
Bijan Ghorashi, *Atlanta*
Martin Irving Goldstein, *Smyrna*
Jeffrey L. Gould, *Atlanta*

Phillip Graham Grooms, *Alma*
Marshall A. Guill, *August*
Abraham T. Halczer, *Norcross*
Richard Daniel Hansen, *Atlanta*
Kathleen Hartney-Velazco,
Jonesboro

Jesse Drake Hester, *Moultrie*
John Harris Hunt, *Statesboro*
William S. Hutchings, *Macon*
William Hope Jarrett, *Atlanta*
Allyn C. Johnson, *Gainesville*

Pamella Johnston-Thomas,
Marietta

Richard Jay Karol, *Marietta*
Thomas Earl Kehl, *Macon*
A. Paul Keller, *Athens*
William Gregory Keyes, *Atlanta*
Brian Kim, *Duluth*

William Knox Kinlaw, *Decatur*
Juha P. Kokko, *Atlanta*

George Albert Kramer, *Decatur*
Abraham J. Kravtin, *Columbus*

Gerald David Kumin, *Marietta*
Walter E. Limehouse, *Atlanta*

Walter M. Lonergan, *Newnan*
Grady Estes Longino, *Atlanta*

James Benton Lyon, *Atlanta*
Tony Joseph Ma'Luf, *Dublin*

William McDonald Martin,
Sharpsburg

William Joseph Mattox, *Duluth*
Stephen Cuthbert May, *Kennesaw*

Diane L. McGowan, *La Grange*
Eugene B. McLaurin, *Savannah*

Jason Lawrence Meadors,
Valdosta

Frederick James Meine, *Columbus*
Frank L. Mitchell, *Atlanta*

Ted Allan Monitz, *Atlanta*

Harold Earl Moore, *Richland*

John Gammon Moore, *Atlanta*

Dennis Mark Murphy, *Rome*

Kevin Joseph Murrell, *Augusta*

Evelyn Chukwudi Onwuachi,
Decatur

Suzanne Jeanette Palmer,
Milledgeville

Romulo L. Parungao, *Conyers*
Bharatkumar S. Patel, *Baxley*

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I've smoked
for
30 years.
It's too late."*




*"I've tried a
million times,
but I just
can't."*




*"I'll
quit
next
week."*




*"I'll quit
next year."*




*"What difference does
it make? I'm already
52 years old."*



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*"I've got
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*"The damage
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Sorter NA, Wasserman SI, Austen KF. Cold urticaria release into circulation of histamine and eosinophil chemotactic factor of anaphylaxis during cold challenge. *N Engl J Med* 1976;294:687-90.

NEWS NOTES — District and county medical societies, Association members, and readers are invited to send any news items of general concern to members of the Medical Association of Georgia.

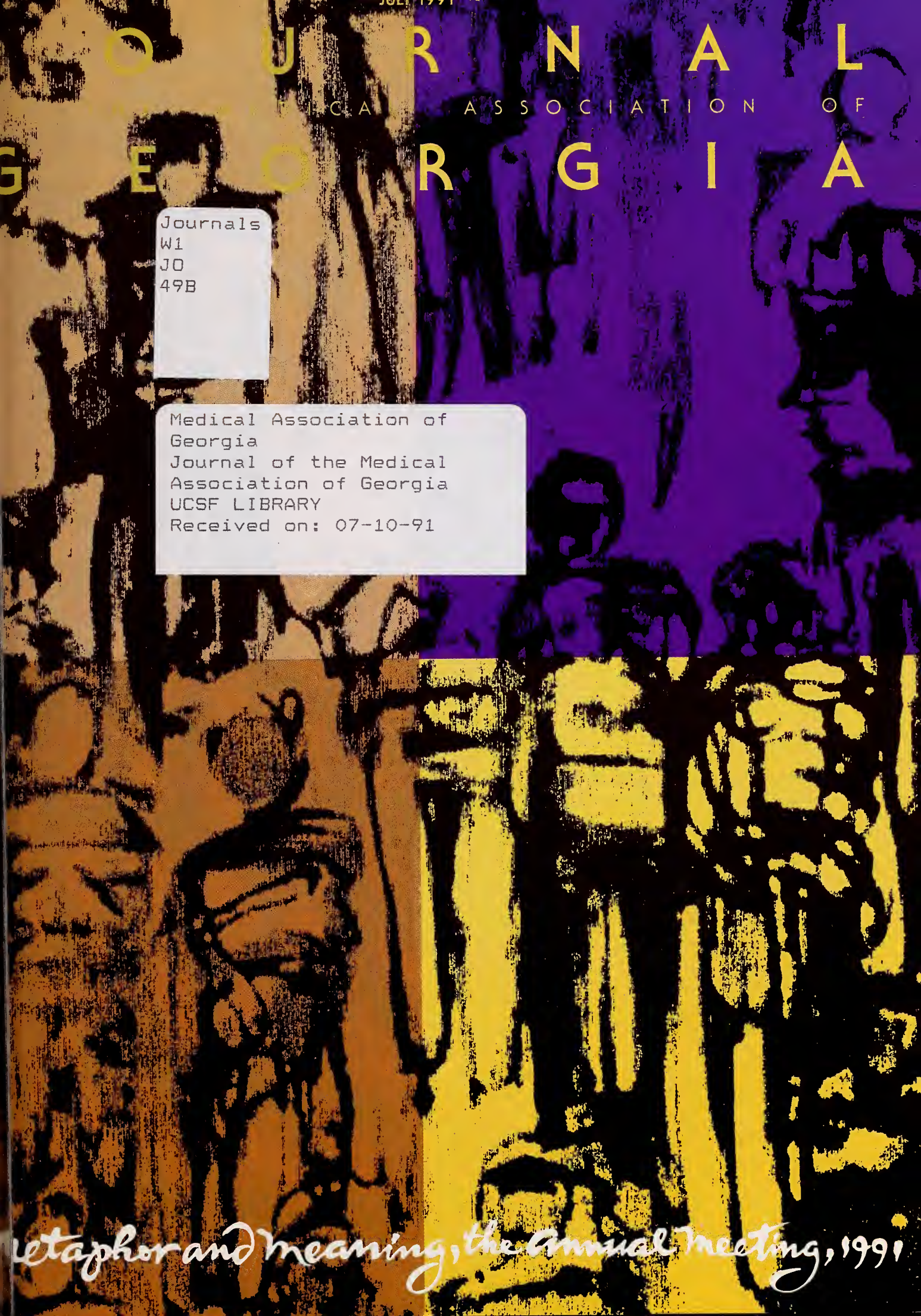
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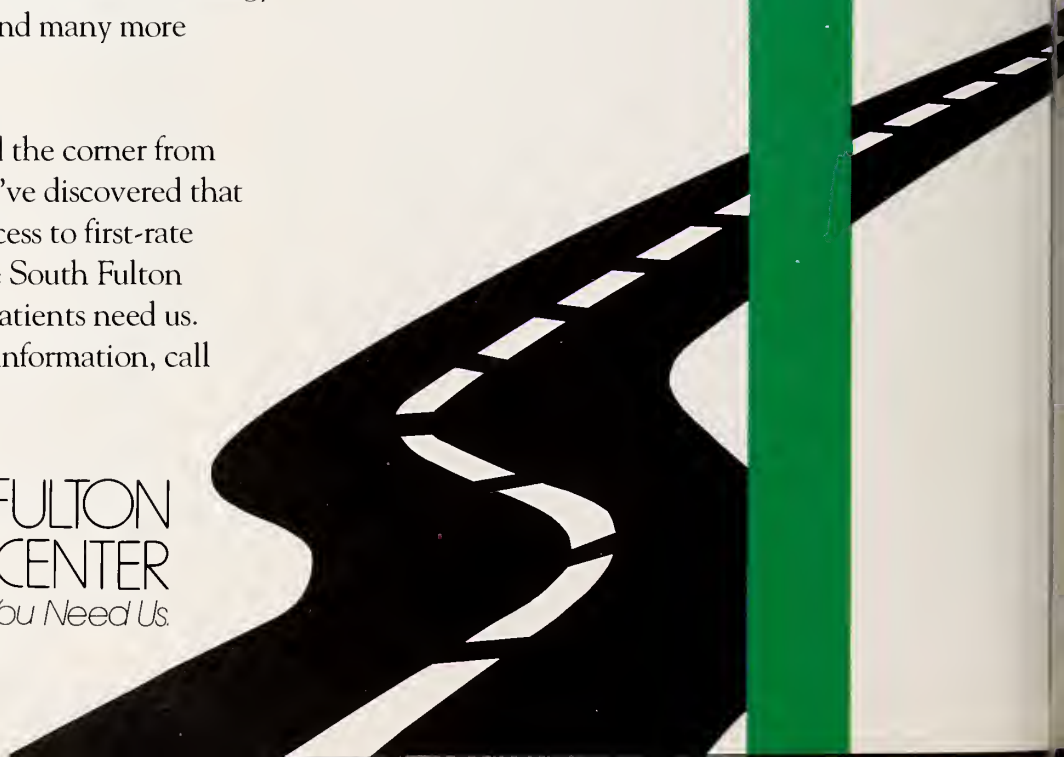
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THE COVER	
Those We See, Those We Don't (Detail) by Atlanta artist Dee Van Dyke is featured on this month's cover to highlight the gathering of doctors from around the state at the Annual Meeting last April in Savannah. Ms. Van Dyke's art may be viewed at the McIntosh Gallery, One Virginia Hill, 587 Virginia Ave., Atlanta 30306. PH: 404-892-4023. Cover design by Hank Richardson, Richardson Design, Atlanta.	

Peer Review — An Integral Part of the Practice of Quality Medicine

The following article represents the first in a quarterly series of peer review articles from the Georgia Medical Care Foundation (GMCf).

The advantages to physicians of the present system of GMCf peer review include the following:

(1) Reviews are done by fellow physicians in active practice in Georgia, and of the specialty appropriate to each case. (This, rather than by professional full-time non-practicing reviewers from afar or concentrated in Atlanta.)

(2) There are successive levels of consideration including Quality Intervention and Medical Review Committees as the severity level mandates their use. If at any level the matter is resolved in the physician's favor, the matter is dropped and he/she is so notified.

(3) You can talk to a GMCf staff physician for answers to your questions concerning the process. (They are available to help you.)

(4) In confirmed quality of care issues the emphasis is on education and surveillance rather than punitive measures.

(5) When modification of the right to practice in the Medicare program is under consideration because of the extreme severity of the alleged quality of care deficit, the physician in question is invited to discuss the issues with a Medical Review Committee. He may bring expert witnesses, and legal counsel if he wants to. Even at such meetings the emphasis is on salvaging and upgrading medical potential and skill.

(6) All decisions at all levels are made by practicing physician consultants and are not changed by the PRO staff. (The Medical Director and Associate Medical Directors perform no official reviews nor make review decisions).

Although the Georgia Medical Care Foundation is constantly monitoring the work of its reviewers — over 500, all in active medical practice over the state — some incorrect reviews do occur. In addition, some initial reviews of the medical record raise reasonable questions, which, can be easily answered by the attending physician if written response is given to GMCf's request for additional information. Such response in itself assures that the case will be sent to a second reviewer. Without it, the opinion of the first reviewer must stand. Hence, those who fail to respond deprive themselves of access to a just solution of the issues raised. Yet, 40% of physicians receiving letters from GMCf FAIL to give written responses concerning quality of care issues and 60% concerning utilization issues.

Medical peer review is a fact of practice life. The public demands and deserves it, and the government mandates it. Help us to operate it justly and to keep it in the hands of Georgia physicians, by co-operating when asked to do so. Constructive suggestions and recommendations are welcomed by the GMCf staff and Board of Directors.

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Yohimbine exerts a stimulating action on the mood and may increase anxiety. Such actions have not been adequately studied or related to dosage, although they appear to require high doses of the drug. Yohimbine has a mild anti-diuretic action, probably via stimulation of hypothalamic centers release of posterior pituitary hormone.

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Contraindications: Renal diseases, and patient's sensitive to the drug. In view of the limited and inadequate information at hand, no precise tabulation can be offered of additional contraindications.

Warning: Generally, this drug is not proposed for use in females and certainly must not be used during pregnancy. Neither is this drug proposed for use in pediatric, geriatric or cardio-renal patients with gastric or duodenal ulcer history. Nor should it be used in conjunction with mood-modifying drugs such as antidepressants, or in psychiatric patients in general.

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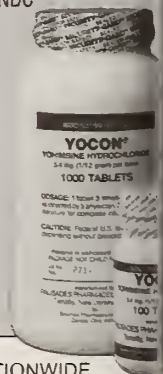
Dosage and Administration: Experimental dosage reported in treatment of erectile impotence.^{1,3,4} 1 tablet (5.4 mg) 3 times a day, to adult males taken orally. Occasional side effects reported with this dosage are nausea, dizziness or nervousness. In the event of side effects dosage to be reduced to 1/2 tablet 3 times a day, followed by gradual increases to 1 tablet 3 times a day. Report therapy not more than 10 weeks.³

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References:

1. A. Morales et al., New England Journal of Medicine: 1221. November 12, 1981.
2. Goodman, Gilman — The Pharmacological basis of Therapeutics 6th ed., p. 176-188. McMillan December Rev. 1/85.
3. Weekly Urological Clinical letter, 27:2, July 4, 1983.
4. A. Morales et al., The Journal of Urology 128: 45-47, 1982.

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About the Cover Artist

Dee Van Dyke

A WILL TO BALANCE, the self-described motivation behind Dee Van Dyke's work, rarely results in harmonies or resolutions. Tensions are flexed; diagrams of ironic contact neutralize fantasies of solitude; the comforts of symmetry evaporate in the velocities of changes, centrifugal force, beyond formed selection, hold it all together. To balance is to clash without cracking. Van Dyke's attention to psychological detail separates her from the conventions of neo-expressionism. The characters are activists, not sphinxes.

Background/Career Summary

Born in Atlanta, Georgia. Studied at the Atlanta College of Art; the University of Georgia, B.F.A. 1974; Stony University (completed graduate course in New York City), summer, 1975. Traveled extensively throughout the United States, 1976; lived and worked in Aix-en-Provence, France, 1978-79; traveled to China, 1985. Visiting instructor, Atlanta College of Art, 1985-86, 1988. Currently lives in Atlanta, Georgia.

Solo Exhibitions

Sixteen solo exhibitions since 1974, including three in West Germany.

Selected Group Exhibitions

"The Face of the South, U.S.A.," Palazzo Venezia, Rome, Italy, 1984.
 "3+1," Museum of Arts & Sciences, Macon, Georgia, 1985.
 "Ut Och In" (Inside Out), Malmö Konsthall, Malmö, Sweden, 1986.
 Southern Arts Federation/National Endowment for the Arts Fellowship, 1988; Traveling exhibition 1988-1991.
 "Birmingham Biennial V," Birmingham Museum of Art, Birmingham, Alabama, 1989.
 "Charlotte National 1990," Spirit



Square Center for the Arts, Charlotte, North Carolina, 1990.

Statement About Work

Influences from a 1985 trip to China began to affect my work toward the end of 1986 and in 1987 I began to use figurative symbols to actively depict states of being. In the first part of this series I concentrated on individual personali-

ties and temperaments, as well as actions and reactions. Later the work evolved into being more about relationships and interaction. In essence the guiding concept of my current work is balance, and through this I am exploring my ideas about people needing each other.

Ms. Van Dyke's work may be seen at the McIntosh Gallery, 587 Virginia Ave., Atlanta 30306. PH: 404-892-4023.

COUNTRY DOCTOR

*Family doctor, slightly stooped,
From habit of fatigue — and sleeping
(In short snatches)
On too soft a mattress through the years.
Seeing the same
Faces with tongues and tonsils,
Skins with the hives, measles, ringworm.
Hearing the same breath sounds,
Heart beats, murmurs, and bruises.
Driving through
The same wind each winter,
Seeing the same fences
In fall,
Smelling the same dank earth
In summer,
And feeling the same youthful longings
In spring.*

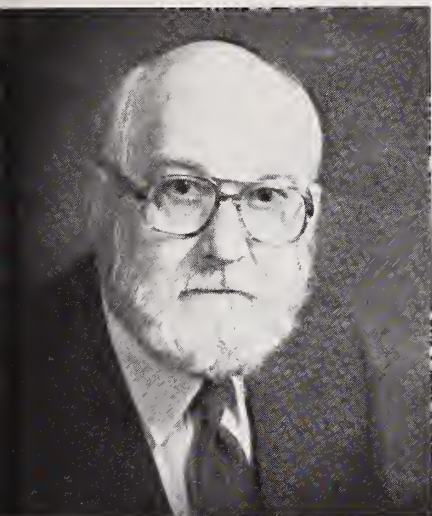
*"I've seen tired hearts stop
From sheer boredom,"
I heard him say.
But there is ever a new
Twinkle in his eye;
For each old face has some new thought,
Some happiness — or problem,
Some need to share
A joy
Or unburden a heavy heart.
Each winter's mud
Is bright
With all the promise of spring's unfolding —
Atop old fences
Rest the brightest birds
That fly the local routes,
Or stop over on some pilgrimage
To more monotonous lands.*

SMALL TOWN BOY MAKES GOOD

*Metaphors are made for city men —
The polished phrase must fit the
polished form —
A sinuous simile, like some dull worm
Pulled slowly from its hole, will suit me when
Some euphemistic ornament is due.
For those trapped to hear, just make it sound
As if some proud accomplishment was found.
But if you find no good you can review,
Then polish up a metaphor or so,
And very few will ever, ever know.*

JOHN RANSOM LEWIS, M.

Dr. Lewis, a plastic surgeon in Atlanta, is Georgia's Poet Laureate.



Cyler D. Garner

IN THE COURSE of every day we all hear things that surprise us. I imagine my surprise recently when I overheard a woman say that all doctors think alike.

I cannot imagine a profession where more people think differently, where we are encouraged to think differently and challenge old ideas. One of the best things about our profession is that it has so many houses.

A few years ago, I would have called myself a country doctor. I expect my patients still do. Today, I'm proud to have the title of Family Physician. To me, the best part of my job is working with the whole family. A family physician in a rural area who is fortunate enough as I have been to practice for 30 years in the same town begins to treat grandparents, parents, and grandchildren.

Frankly, I wouldn't trade places with anyone else. Especially those of you who have to hassle with the "big" cities. I'm grateful for my place in a small town.

The fact is, however, that I couldn't practice in a small town if I didn't have the support of my colleagues in larger cities. Those of us in rural areas depend on the urban doctors to back us up when we don't have the facilities or the specialty to meet the needs of our patients. We need you to back us up when we are out of town or have other emergencies of our own. I am very fortunate to have had wonderful support from doctors in neighboring towns. Fine doctors who treat my patients, then send them back to me.

There is some argument among us over who has the most: the urban or the rural doctor. From my perspective, we are a symbiotic unit. We need each other, and the concerns of the urban doctor must be the concerns of the rural doctor, and vice versa.

It was Douglas MacArthur who said: "There is no security on this earth; there is only opportunity."

As we face together the pandemic of AIDS, the growing problems with drug and alcohol dependency, rising health care costs and the threats to the future of our profession, I hope we do so without distinguishing between urban and rural. I know that if we don't work together, if we splinter off into separate groups with differing agendas, we will see our profession damaged if not destroyed in a very few years.

No one specialty or one demographic area has enough physicians with enough clout to be effective in the highly political, regulatory and legislative environment we find ourselves in today. We need each other to maintain the health of our profession, just as we need each other to maintain the health of our patients.

The Medical Association of Georgia is our association, and it gives us our opportunity to work together on all the challenges we face.

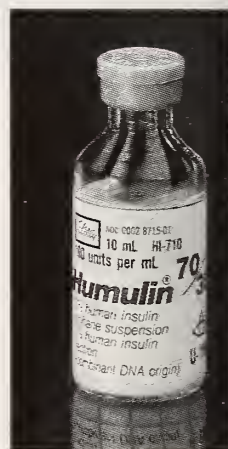
Cyler D. Garner, M.D.

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or NPH-using patients

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- Accurate dosing—eliminates mixing errors
- Convenient premixed dose for better compliance
- Easy to use—for patients who find mixing difficult



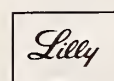
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30% human insulin injection
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just the right mix**

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Changes in refinement, purity, strength, brand (manufacturer), type (regular, NPH, Lente®, etc), species (beef, pork, beef-pork, human), and/or method of manufacture (recombinant DNA versus animal-source insulin) may result in the need for a change in dosage.

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Nicholas Edward Davies, M.D., F.A.C.P.: A Remembrance

William C. Waters, III, M.D., F.A.C.P.

"SHOW ME A MAN who knows what's funny," said Mark Twain, "and I'll show you a man who knows what's not." Thus did America's wry laureate of prose characterize that certain rare soul — one whose innate sense of humor frees his intuition to play widely and unafraid over the range of human affairs. Such a man, the same Samuel Clemens would likely agree, was Dr. Nick Davies.

By now, everyone knows that Nick, at age 65, was killed in a commercial airline crash on April 5 near Brunswick, Georgia. Most of us now know that he was the incoming President of the American College of Physicians, former Governor for Georgia of the College, and a member of the American Board of Internal Medicine. It is common knowledge that Nick was a long-time physician at Piedmont Hospital, a recent Chairman of the Department of Medicine, and a tireless worker in the civic arena. But all those activities are listed in the accompanying curriculum vitae and many other places; this is the time to talk about Nick himself.

It's said a man can be measured by his enemies, but this isn't applicable here since Nick never seemed to be able to make any. A man can also be measured by the people he would like to be. It seemed that Nick wanted, at different times, to be Jimmy Stewart, Dr.

William Cobbett, Noel Coward, Thomas Jefferson, Linnaeus, Don Quixote, Will Rogers, Andrew Carnegie, Sir William Osler, Samuel Johnson, Bill Gates, and Boris Becker.

‘Those of us who knew Nick well suspect that renovation of the health care system was but a subdivision of his master plan.’

The first time I ever saw Nick was when I was a senior student at Emory assigned to the obstetrics service at Grady. He was called, as a senior assistant resident, to consult on a teen-aged girl who had just delivered and who was in virtual status epilepticus. She had been treated for preeclampsia with magnesium sulfate and phenobarbital. Delivery had been induced in an effort to terminate her hypertensive-convulsive episode. But she was still in deep trouble.

Nick walked — nay, shuffled — in, wearing white pants, white

bucks, and a white oxford button-down shirt with the sleeves rolled above the elbow. He had a small bag under his arm. He looked at the patient and examined her. He tilted his head to one side. He put the bag down on the table. Then he put one foot up on the rung of a chair. Somehow, just standing there, he managed to shuffle again. This was clearly vintage Stewart — Mr. Chips incarnate.

He looked at the patient some more.

She jerked both arms.

Nick scratched his chin. He put both hands inside his belt. Then he turned and looked at the opposite wall.

Finally he turned around, jingling the change in his pocket, and addressed the four men in the room — a faculty member, the chief resident, the junior resident, and me. Had I known him better I would have recognized here the William Cobbett mode. (Cobbett was the irascible rebel-reformer who defied, among other people, the famous blood-letting Dr. Benjamin Rush, insisting he was killing people. Like, for example, George Washington.)

"Tell you what I really think," Nick said, scratching his chin again. All heads turned.

"What I think is . . ." He now folded both arms across his chest. (Noel would have been proud — stage directions here indicate the

Dr. Waters specializes in internal medicine and renal disease. He also serves on the Editorial Board of this *Journal*. His address is 35 Collier Rd., Ste. 350, Atlanta, GA 30309.

tension in the room is palpable, intolerable.)

"... we've got the wrong diagnosis."

Surely, Cobbett stirred in approval. The patient indeed turned out to have idiopathic epilepsy and eventually did well on anticonvulsants. At my impressionable stage, I wondered if I could ever be like Dr. Davies: walk in, change the course of a diagnostic dilemma, maybe even roll up my sleeves and shuffle a little bit.

Nick had a habit of constantly harassing those about him to get more and more involved in civic, professional, literary, and teaching functions.

"Tell you what you ought to do," he would say to an unsuspecting younger associate. Or, "You know what you would be good at?" Or, "Why aren't you a Fellow of the College?" "The Friends of the Library need you." Mark Silverman complained, tenderly, that Nick was a thorn in his side, constantly urging him to expand his already elaborate teaching program; Mark wonders who will now fill that role. Unrestrained, Nick would get you in deep trouble. Like Thomas Jefferson, he would push his friends to their limit. I became involved in three major things I didn't think I wanted to do because of his urgings; he was right — I loved them all. And like Jefferson, Nick was an architect — not of Monticello but of other people's souls.

Like the original lexicographer Samuel Johnson, Nick had a fetish for words. He would have given a finger to have written Johnson's original definition of *network*, complete with the *interstices* and *intersections*. Like Johnson, he would have relished the scholarship but, to be accurate, unlike the coffee-house tyrant he would have

“He always had a Word of the Month. I’ll never forget *plinth*. He used it three times a day, hoping someone would ask him what it meant. Finally, in desperation, he said, “That’s a good word, *plinth*. Ever heard of it?””

dropped the pedantry: Nick, though literate, was a lucid guy. He was probably guided in this by his well-versed wife, Garland, who has recently retired as an English professor at Georgia State, and whom he referred to as his “consultant.”

He always had a Word of the Month. I’ll never forget *plinth*. He used it three times a day, hoping someone would ask him what it meant.

Finally, in desperation, he said, “That’s a good word, *plinth*. Ever heard of it?”

For some reason, I had. “I think it’s something like the base of a pedestal,” I said, trying to be cool, you know, throw it away.

“Damn, that’s right,” he said. He was disappointed, but not because I knew his Word; he was disappointed as Osler would have been because he’d lost a teaching opportunity.

And, above perhaps all others, Osler was his idol. Nick was a member and at the time of his death was the incoming president of the Osler Society. He had actually made a pilgrimage, following the course of Osler’s career in the U.S. and Britain. He referred to Sir

William constantly, dropping his maxims like blossoms along the way. And like the great clinician Nick possessed *aequanimitas* — a strange tranquillity which, in both cases, emanated from hard-worked knowledge and a quiet resolve to improve the world about him.

Andrew Carnegie, committed as he was to the mere acquisition of wealth, would normally not have fared well in Nick’s lexicon. But he redeemed himself utterly, even became another of Nick’s heroes, with one clever move: he gave huge gifts to libraries. You see, Nick collected libraries. Every place he went — London or Biloxi — he wanted to see the book collection. He was founding chairman of the Friends of the Atlanta Public Library; he was a long-time worker and then chairman of the National Library of Medicine. Alice Divier no’s director’s desk at the Piedmont Hospital Library has a worn place where Nick leaned. At the vast celebration of Nick’s contribution to the Visiting Nurses’ Association, attended by some 500 of his intimate friends, I recited the legend that he was actually a changeling, left under a tree at the American College of Physicians by a migrant band of librarians. He always seemed to look askance at me after that.

Nick felt that medicine isn’t doing the job it was designed for. He was always worried about people falling through the cracks. He agonized — and shuffled and jingled — over the millions he perceived were uninsured, left without access. He would really have liked to redesign the system, with everybody cared for by selfless health workers. Such a program would have indeed been feasible if all the health professionals were like Nick: that is, if everyone were dedicated to his fellow man’s welfare and not worried about his own.

But those of us who knew Nick well suspect that renovation of the health care system was but a subdivision of his master plan. He once decided to formally state his priorities: "1. My family [that's Garland, Nicholas, Sally, Elizabeth, and four grandchildren]. 2. My patients. 3. The community." Notably absent in the hierarchy was, of course, Nick. Like Linnaeus, some of us feel, he would have chosen to reorder the natural sequence — change all the phyla, the genera, the species. Whether his scheme would work in the real world we'll never know; certainly it would have been a beautiful place, full of people going about their joyous task of helping others. There were, one recalls, a few others in history with this general idea.

Serious as he was about his ideals, Nick had a generous soupçon of the humorist in his heart. His favorite jokes were hilarious and, like everything else about him, precisely chosen for their subtlety. Returning from an seemingly endless American Board of Internal Medicine policy meeting, he waxed lightly irreverent.

"I think . . . I *think* . . . that the American Board has now bitten off less than it can chew." You can see Will Rogers pulling his ear in approval.

He loved tennis and wanted to be Boris Becker for a little while,

but not just because of the fame. He would have wished to have defeated certain players whose manners on the court he did not consider enchanting. Without ever actually saying it, he could not tol-

“Unrestrained, Nick would get you in deep trouble. Like Thomas Jefferson, he would push his friends to their limit. I became involved in three major things I didn't think I wanted to do because of his urgings . . . I loved them all.”

erate a lack of grace. Nick was a gracious, but also a graceful, guy and the habits of our planet sometime failed to reach his standards.

His latest obsession was communication, the transfer of information: informatics. He was chairman of the ACP committee on that subject. He had dipped deeply into semantics, and more recently into computer-cybernetics, hoping to get words and machines to help us think better. One can visualize him

sitting for a time at the feet of Bill Gates, the guru of computer software, learning how to program a floppy disc which would make everybody knowledgeable, everybody insightful, everybody better than they are. He might have called the program MedRight. Or, on further revision, BetterLife.

His commitment to moral standards in the medical arena led to originating the Ethics Committee at Piedmont as well as helping to sponsor conferences on medical ethics in the Atlanta area. Lawyers' lengthy opinions on the impracticality and even hazard of such committees, as well as the inertia of his colleagues, piqued him. He forged ahead anyway. If you try hard enough, he knew, the windmills would eventually come down.

So Nick Davies aspired to be like certain great achievers. In the process, one feels, he did one better — he dissected away the finest qualities of each, incorporated them into himself, and created a wholly new image. Even if the man himself has now returned to La Mancha, it is important that his new icon is now available. For you see, there are many of us who don't really want to be like Jefferson or Osler or Cobbett. We'd rather wear oxford shirts and jingle our change and shuffle a little bit and agonize over the world's inequities.

We want, you see, to be like Nick.

EDITORIAL

CURRICULUM VITAE

NICHOLAS EDWARD DAVIES

Born Philadelphia, Pennsylvania, January 25, 1926

Education

University of Virginia — B.A., 1949
University of Virginia School of Medicine — M.D., 1952
Cincinnati General Hospital — Intern, July 1952-June 1953
Grady Memorial Hospital — Resident, Internal Medicine, July 1955-June 1957

Military Service

United States Maritime Service — Purser/Pharmacist Mate, January 1944-June 1946
United States Air Force, School of Aviation Medicine, August 1953-October 1953
United States Air Force — Flight Surgeon, October 1953-June 1955
United States Air Force — Commendation Medal, 1954

Professional Organizations

Medical Association of Atlanta, 1957-present

Aven Citizenship Award, 1970
Editor, *ATLANTA MEDICINE*, 1971-1975
Chairman, Public Relations Committee, 1976
Chairman, Committee on Exercise and Heat, 1977
Chairman, Health Education Forums, 1977
Chairman, Health Education of Public Committee, 1978

Medical Association of Georgia, 1957-present

Chairman, Task Force on Continuing Medical Education, 1971-1973
Chairman, Education Committee, 1973-1977
Chairman, Health Education of Public Subcommittee, 1975-1981
Chairman, Small Hospital Libraries Project, 1976-present
Civic Endeavor Award, 1977

American Medical Association, 1957-present

Continuing Medical Education Accreditation Surveys
Mississippi Medical Association
Tennessee Medical Association
Neurosurgical Society of North America (Chairman)
Medical Association of the State of Alabama (Chairman)
Puerto Rico Medical Association (Chairman)
Senior Consultants of New York
Infectious Diseases Society of America (Chairman)
American Heart Association (Resurvey Chairman)
Continuing Medical Education Annual Meeting
Chicago, Illinois, November 1974, Panel
Moderator on Self-Assessment

American College of Physicians

Associate, 1959
Fellow, 1965
Governor-Elect for Georgia, 1975
Governor for Georgia, 1976-1980
Editorial Board, *FORUM ON MEDICINE*, 1978-1980
Medical Practice Committee, 1978-1981
Chairman, Subcommittee on Organization and Delivery

EDITORIAL

Public and Professional Communications Committee
Subcommittee on ACP/Saunders Book Project
Panelist, Governors' Meeting, San Francisco, CA, 1979
Panelist, Governors' Meeting, Colorado Springs, CO, 1979
Nominating Committee, Board of Governors, 1979-1980
Health Policy Committee, 1979-1980
PIQUA Panel for Infectious Diseases
Graduate Medical Education National Advisory Council
Adult Medical Care Panel, 1979
Medical Knowledge Self-Assessment Program VI
Author, Cardiovascular Patient Management Problem
Editorial Board, *Annals of Internal Medicine*, June 1980-1986
GMENAC, Neurology, Panel, 1982
Board of Regents — 1984-1990

American Heart Association

Member, 1957
Fellow, 1970
Delegate (Georgia Affiliate) 1979-1982
Delegate (Southern Region) 1981-1983

Georgia Heart Association

Member, 1957-present
Board of Directors, 1970-1974, 1976-present
Vice President, 1978-1979
President-Elect, 1979-1980
President, 1980-1981
Executive Committee, 1978-1983

Fulton County Heart Unit

Founding Chairman, 1972-1974
Executive Committee 1972-1981

Metro Atlanta Health Fair, 1980-1982

Chairman, Physicians Advisory Committee

Southeastern Clinical Club

President, 1971

Atlanta Clinical Society

Southern Medical Association

Editorial Board, *Southern Medical Journal*, 1977-1980

American and Georgia Societies of Internal Medicine

National Library of Medicine

Board of Regents appointment by President Carter
Confirmed by the U.S. Senate March 22, 1978. Term expired August, 1981
Chairman, Board of Regents, August 1980-1981
Chairman, Technical Review Group I (Reconfiguration of RML Program) May 1982
Consultant, Extramural Program, 1982-present

American Board of Internal Medicine

Board of Governors, 1984-1990

Atlanta Medical History Society, 1981-present

Secretary-Treasurer, 1981-1982
President, 1983-1984

American AIDS Fund

Chairman, 1988-present

American Osler Society, 1982-present

American Clinical & Climatological Association, 1983-present

Community Service

United Way of Metropolitan Atlanta

Chairman, Medical Division, 1969
 Board of Directors, 1970-1979
 Vice President, 1972-1974
 Chairman, Agency Relations and Allocation Division 1972-1974
 Chairman, Information and Referral Service, 1974-1977
 Chairman, Agency Evaluation Committee, 1977-1978
 Advisory Committee, 1979-1980

Friends of the Atlanta Public Library, Inc.

Founding Chairman, November 1974
 President, 1975-1979
 Chairman of the Board, 1979-1980

Atlanta Council for International Visitors

Board of Trustees, 1974-present

Atlanta Committee on Foreign Affairs, 1964-1983

Atlanta Advertising Club Voluntary Advisory Committee

Board of Directors, 1975

Metropolitan Atlanta Community Foundation

Board of Directors, 1978-1988
 Executive Committee, 1982-1988
 Vice President 1983-1988

Visiting Nurse Association of Metropolitan Atlanta

Board of Directors, 1976-present
 Secretary of Board, 1977-1978
 1st Vice President, 1978-1979
 2nd Vice President, 1979-1980
 President, 1981-1983

State of Georgia, Comprehensive Health Planning

Task Force on Manpower, 1975

Alumni Activities

University of Virginia Alumni Association,

Atlanta Chapter President, 1964
 Dupont Scholars Selection Committee, 1962-1964
 Jefferson Scholars Selection Committee, 1981

University of Virginia School of Medicine Alumni

Chairman, Subcommittee on Continuing Medical Education, 1969-1971
 Alpha Omega Alpha — Alumnus Member, 1981
 Board of Trustees, 1983-1988

In Memorium — Dr. Jack A. Raines, 1924-1991

John D. Watson, Jr., M.D.

AHUSBAND, Father, Grandfather, Physician, Counselor, Thespian, Coach, and Leader. He is survived by his widow, Jean, two sons and one daughter, two grandchildren, and many friends and admirers.

Jack was a unique talent among unique talents. He rarely entered into anything in which he did not wish to excel. He became the top man in almost all that he touched: whether it be Acting, President of our local Little Theater; Coaching, the President of both the football and baseball Pop Warner and Peach Leagues; Medicine. President of the Muscogee County Medical Society, President of the Georgia Psychiatric Association, Chairman of the Board of the Medical Association of Georgia, Vice-Speaker of the House of Delegates of the MAG, and numerous lesser posts; and Counselor, Board of Directors of MAG Mutual Insurance Company, Claims Committee of MAG Mutual, member of the Composite State Board of Medical Examiners of the State of Georgia, and American Psychiatric Association Peer Review Committee.

A Counselor to his many friends and associates, Jack was always available if you sought his advice, and time was not a factor. He would spend as much time with you as necessary until you felt comfortable about your problem or concern. He had a special way of not telling you what to do, but exploring the parameters with you until you could see your way as to the best solution. His depth of knowledge about so many topics and on-going intrigues was amazing.

His family will miss him as their Father. The many organizations with which he was involved will miss him as a most valuable Resource and Counselor. His colleagues and friends will miss him as a trusted Friend. His community will miss him for his concern and involvement in its affairs. His patients will miss him as the ultimate Confidant and Counselor.

For those who are blessed with much knowledge and ability, much is required if they are to fulfill their roles in life. Jack met the task by any standard.

Dr. Watson, a Past President of MAG, practices radiology/oncology in Columbus.

Of Matters That Matter — And of Pleasure — Ah, Sweet Summer

Charles R. Underwood, M.D.

“Let thy joys alone be remembered now, Let thy sorrows go sleep awhile.”

SIR THOMAS MOORE

“The happiest days of any journey are the day you leave home and the day you return home again.”

LAYTON MAUZE, PRESBYTERIAN MINISTER

“For many millenia our ancestors squatted successfully in the woods. You might think it would follow that everybody would know how — by instinct. Nature simply takes its course when a colon is bulging or a bladder bursting. But “its course,” I cheerlessly and laboriously discovered, was subject to infinite miserable destinations.

Several seasons of guiding city folks down whitewater rivers both sharpened my squatting skills and assured me I wasn't alone in the klutz department. Frequently, the strife and anxiety experienced in the bushes were greater than any sweat produced by the downstream roar of a monster, raft-eating rapid. Those summers on the river led me to a couple of firm conclusions. One: Monster rapids inspire a lot of squatting, which in turn supplies a wealth of study material for two. Two: (and ultimately one of the subjects that prompted this publication): Finesse at shitting in the woods — or anywhere else, for that matter — is not come by instinctively. This might sound as if I were a regular Peeping Joan. But with several dozen bodies behind the few bushes and boulders of a nar-

row river canyon, I found it practically impossible not to trip over a few — exhibiting all manner of contorted expressions and postures — every day. Generally, a city-bred adult, in dropping his or her pants to squat, can expect to be no more successful in this endeavor than a tottering one-year-old. Shitting in the woods is an acquired rather than innate skill, a skill honed only by practice, a skill all but lost to the bulk of the population along with the art of making soap, carding wool, and skinning buffalo.

We are now several generations potty-trained on indoor plumbing and accustomed to privacy, comfort, and convenience. To a person brought up on the spiffy, silenced, flush toilet hidden away behind the bolted bathroom door, elimination in the backcountry can rapidly degenerate into a frightening physical hazard, an embarrassing mess, or incredibly, a week-long attack of avoidance-constipation.

Over the last decade, an unprecendented lust for wilderness vacations and exotic treks has exploded out of our metropolitan confines. With the same furor that marked the nineteenth century race to fulfill Manifest Destiny, rat race victims now seek respite in the wilds from twentieth-century urban madness. Masses of bodies are thundering through the forests, scurrying up mountain peaks, and flailing down rivers, leaving a wake of toilet paper and fecal matter Mother Nature

cannot fathom. It's not unrealistic to fear that within a few more years the last remaining pristine place could well exhibit conditions equal to the world's worst slums. Anyone who has come upon a favorite once-lovely beach or river bank trashed with litter has felt horror at the visual impact. But the veiled environmental impact of the rapidly increasing quantity of human waste in the woods is of even greater concern. Tragically, no longer can we drink from even the most remote, crystal clear stream without the possibility of contracting giardia, a disease spread through fecal deposits in or about the waterways — and a disease unknown in the U.S. wilderness prior to the 1970s.

Once the “authorities” have taken over preservation, it is, in my mind already too late. Rules and regulations imposed by government agencies (though absolutely necessary now in many areas) are themselves rude incursions into majestically primitive surroundings and antipodal to the freedom wilderness represents. Rules, sign application forms, and their ensuing costs are truly a pain in the ass brought about not solely by increased numbers of people, but also by the innocently unaware and the blatantly irresponsible. The willingness to inspire preservation comes most naturally from those who delight in the wilds; it is they — we — who have the greatest responsibility for respect, care, and

education. And it is we who must learn and teach others how and where to shit in the woods."

How to Shit in the Woods,

KATHLEEN MEYER

(A well-written and environmentally accurate and useful manuscript chosen by the Editor and with his apologies for the crudeness though accuracy of the title.)

ONE FINDS difficulty, obstructionism, in thinking of joy and disaster and comfort and pain at the same time. Separate, they have their place in all our lives. Joined together, however, the amalgam fractures. It is thus that thespians are depicted with the two masks, one in anguish and the other afire with laughter. So, too, the writings of Shakespeare which one finds catalogued as The Tragedies, The Comedies and The Histories. Our thought processes, our emotional millieu, wants the one, or the other, else we ricochet between the two. We become schizophrenic.

This however is the position your Editor finds himself in this month. We must deal with the future of this *Journal* and the pain, perhaps not disaster, which recent events have placed at our doorstep. We must talk of these frankly, not critically, or only then can practical and realistic solutions come forth. But then, with such matters put aside to rest awhile, we shall talk of summer — and of pleasure. Ah, sweet summer!

Let us begin first with our problems. This past Annual Session of the MAG was forced by budgetary constraints to confront some difficult issues and to make some uncomfortable decisions. So it is with us all when the fiscal world in which we live fragments. The House of Delegates, as well as the Executive Committee and Board of Directors which preceded the gathering of that body, did so with unusual care and debate, coming to decisions with calculated understanding. As debate and decision making came to an end, necessary constriction of carefully requested budgets had been put into effect. This particular "line item" in the overall budget of the MAG, the budget of the *Journal*, submitted as a "no frills budget neutral" suggestion to the Finance Committee suffered a recommended cut from the requested \$191,000 to \$150,000 with the recommendation that the *Journal* be published every other month rather than monthly as has been its history since its origin in the nineteenth century. Following debate at the Executive Committee, the Board of Directors, and Reference Committee F, all of whom opposed the 6-time publication and recommended continued monthly publication, the House of Delegates mandated that it continue a monthly publication with what seemed to this Editor to be an understanding that it continue the level of quality and size as in the past. As the fiscal fires cooled, however, we were still left

with a budget of \$150,000, clearly making impossible the continuation of the same level of size and quality to which we have all become accustomed.

In 1990, the House of Delegates passed a resolution stating that \$20 of each active member's dues be allocated to the *Journal*. With approximately 6700 active dues-paying members, this results in a sum of \$134,000. In addition to this, advertising revenue should produce between \$80,000 and \$100,000 in 1991-1992. Thus arises a matter of priority. The question simply put begs the answer: "Is this publication, carefully monitored fiscally, important enough to the membership of the MAG to warrant continued support, or are other functions of the organization more worthy and thus to a degree sufficient to threaten the usefulness if not the survival of the *Journal*?"

But let us turn to happier and less stressful thoughts, for indeed it is summertime. It all started one evening at a cocktail party. The most unusual and creative plans seem to have their genesis under such circumstances. Their practicality, their eventual fruition it seems to me, seldom relate to their eventual evolution. But the planning, the grandiose preparations seem to ignore such pragmatic concerns carrying one into a fantasy land bearing no relation to one's daily life. Nor, may I say, to one's fiscal resources as yet comes the

morrow. Such was the occasion when my good friend, Louis Felder, began to describe the utter ecstasy of floating the Hell's Canyon stretch of the Snake River. Did you say Snake River whispered my proposed tent-mate. And so it went until commitment beyond recourse had been made. The brochures arrived, the deposit made, and before reason gained hold of ecstasy, we were a part of the excursion.

The first indication of the predicament into which unguarded thought and intemperance had led us came when one of the group mentioned that Ferrol Sams, he of the unrestrained (and carefully crafted) practical joke and his wife were to be in the party. Amongst the wilderness-opening explorers, my hands grew clammy. "Not he who struck the match to the flatus-passing mule," I moaned. I shuddered at what lay ahead of us. But then came the shock of a previous excursioner asking what type equipment and survival gear and clothing we planned to take with us. "Same as to Sea Island," I said. Quietly whispered advice from a friend led us to one of those outdoor adventure stores. We entered the establishment amid deeply tanned young men and women clad in shorts, cobbled boots, outback hats, and belted with compass and knife. I quickly removed my tie, hid my coat in the car, and rumbled my shirt a bit. Following consultation with the helpful young saleslady, herself clad for mountain climbing, we departed this museum of health and fitness with clothing and accoutrements suitable for navigating and floating unaided across the Atlantic. We made a death pact: "I won't take your picture if you won't take mine."

The final and near fatal crack in our confidence came soon afterwards in the form of a letter, postmarked in Boise, Idaho, and written

on the letterhead of the outfitter we were to use, thus leaving a seal of authenticity, and which read in part as follows:

"I am sure you are looking forward to your May rafting trip of the Snake River. I congratulate you for choosing to go early in the summer during the high-water flow season. This will certainly turn your soft adventure into the thrill of a lifetime.

“Our thoughts once again rebound from the concern over damage to a part of this organization which I see as a valuable and cohesive vehicle, that is, the *Journal of the MAG*, rebound from this to trembling anticipation of mauling from bears and bites from marmots.”

While the Hughes people are an outstanding outfitter, we want to offer you a supportive rescue service on a pre-paid group basis. Most of these trips go very well; but for the occasional accidental broken bone, the animal mauling, or unanticipated serious illness, we provide an invaluable service.

For \$55 per rafter, we will furnish free helicopter service out of Hell's Canyon to Lewiston, where we have preferred arrangements with fine physicians trained at the University of Manila and another from the Karachi Medical Institute. Both have special training in the care of Rocky

Mountain Spotted Fever which is endemic to the area. Most doctors can handle trauma from animal attacks, but ours also know what parasites are transmitted by predators.

A highlight of the trip will be your transit of the Hat Point scenic area of the Snake River. We will have a Red Cross certified lifesaving specialist trained in handling drownings at the largest rapids when you go through the area. He will also have splints and other first aid supplies.

The most important thing you can do to be safe is to use good judgment and good equipment. You helmets, life jackets, and pads should be first rate. The rapids are swift, and the rocks are hard. Don't feed the animals! Some are obviously extremely formidable, and coyote and bear should be avoided. Others such as eagles and marmots will come close and look friendly, but they can damage the camp and will not know when the hot dog ends and your finger begins."

It was only following phone call to the outfitter for comforting reassurance that the perpetrator of this infamous trickery was uncovered as one of our own. I cautioned him "You must be cautious and fear for your life. You have just outwitted one of the all time masters of trickery. Sambo takes these things quite seriously."

And so it was that it happened. Three days before the planned departure there arrived in the office of this highly placed CEO a large bouquet of pink roses bearing a card clearly inscribed for all to see from the receptionist to the security guards to the personal secretary. I read, "I will miss you this coming week. Love, Bruce." He quietly bore the bouquet into his office as the snickering secretary attempted self control.

Yet, we persevered. No snakes, no Sambos would deter us now. We were prepared for the Great American Outdoor Adventure. The polarite outer garments and their accompanying outer-space-tested undergarments lie now along with the rain suits, the head gear, the waterproof camera container in orderly array upon the living room floor, awaiting proper placement in the weather repellent duffle bags. The occupants of such attire, yet unaccustomed to such finery, sit contemplatively in the library. I thought again of a cartoon from years past in the *New Yorker*. It depicted a young couple who had with

gratuitous beneficence and generosity been given tickets to the championship football game sitting huddled in a driving snowstorm. One said to the other in the caption below, "Poor John and Linda. Sitting at home before a warm fire drinking mulled wine."

"Would it not be more practical, more reasonable and reliable to our age," my anxious and contemplative floating companion asked, "if we just suggested that we both suffer from seasickness and would be most appreciative of an invitation to the slide viewing party if they all return safely?"

We leave, take our departure from

this civilized world, on the morrow. Our thoughts once again rebound from the concern over damage to a part of this organization which I see as a valuable and cohesive vehicle, that is the *Journal of the MAG*, rebound from this to trembling anticipation of mauling from bears and bites from marmots. But we must be on our way and hastily. The water is rising on the Snake, and the rapids yet vent their fury upon the boulders. We shall surely return. It says such in the travel folder. And so for now must await the obituary to be published here next month. "Ah, sweet summer!"

MRI UPDATE



Figure 1

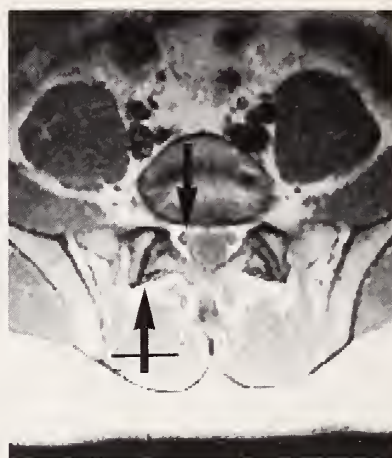


Figure 2

CLINICAL HISTORY: This is a 26-year-old male with back pain and right lower extremity radiation.

FINDINGS: This is an example of a normal study on a young adult. **COMMENT:** MRI is the screening test of first choice for suspected disorders of the lumbar spine. Notice the clear depiction of the normal L5-S1 disc (figure 1, crossed arrow). The discs of this patient exhibit high signal intensity reflecting normal hydration and none of the discs are narrowed. None of the discs indent the thecal sac which is of intermediate signal intensity and appears as the gray band

in the center of the image. The vertebral bodies are homogeneous and free of destructive lesions. The conus medullaris (arrow) is normal. This sagittal image demonstrates the advantages of MRI over other screening modalities. Routine CT scanning will not display the conus medullaris, lesions of which may masquerade as disc herniation. The general area of coverage is superior with MRI. Disc detail is much better displayed with MRI.

The axial image at L5-S1 (figure 2) exhibits delineation of intraspinal detail far superior to that of CT. The right S1 nerve root is clearly

displayed (arrow) surrounded by normal perineural fat which is the bright high intensity material in the periphery of the spinal canal. State-of-the-art MR images clearly display the bony anatomy of the lumbar spine including the facet joints (crossed arrow). Degenerative diseases and bony neoplasm are routinely detectable.

MRI involves no ionizing radiation and no intrathecal contrast material is needed. It is a patient-friendly outpatient examination well suited for screening purposes.



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Meaning and Metaphor — Highlights of the Annual Meeting

THE FIRST GENERAL Session of the 137th Annual Meeting of the House of Delegates of the Medical Association of Georgia was called to order by President William C. Collins, of Atlanta, at 7 P.M., Thursday, April 25, 1991, at the Savannah Hyatt. There were 217 Delegates and Alternates present, representing 37 component county medical societies. Lt. Gov. Pierre Howard gave

the Keynote Address Thursday evening. On Saturday, Col. Le Moyne, one of the leaders of Desert Storm, gave a moving address to the House.

Many members were recognized for their contributions to MAG and to their communities. Among the recipients of special awards were: Dr. Jack Chandler, who received the Hardman Cup; Drs. John B. Rabun and Mary Wheatland Schley, who

shared the honor of the Civic Endeavor Award; Dr. Jeffrey T. Nugent, who received the Distinguished Service Award; Dr. Robin L. Fine, recipient of the Family Physician of the Year Award from the Georgia Academy of Family Physicians; Dr. Caroline S. Williams, Physician Award for Community Service; and Dr. Robert Burns, who received the Charles R. Drew Award.

Reference Committee A

Report of the President

Adopted Recommendation 1 as amended, "that the President, at his/her discretion and with the approval of the MAG Executive Committee, review MAG Committee charges; analyze the actions of the House of Delegates along with other appropriate programs; consult with appropriate committee chairperson; and prepare specific directives to be accomplished by selected committees for the coming year. The objective would be to engender en-

thusiastic support for the committee structure and make our organization more effective."

Report of the President

Adopted Recommendation 10, "that the Health Access Georgia Plan be adopted by the Association and that appropriate legislative actions in it be drafted and presented to the Legislature as a means of providing access to our health care system to as many Georgians as possible."

Access to Medical Care

Adopted Recommendation 1, "that the charge of the MAG Access to Medical Care Committee be changed to read "Established to plan and conduct programs and initiatives to improve access to quality and affordable health care in the State of Georgia."

Adopted Recommendation 2, "that the MAG House of Delegates will adopt Health Access Georgia as an access to health care initiative."

Adopted Recommendation 3, "that the Access to Medical Care Committee periodically update Health Access Georgia to keep up with changes in health access problems in our state."

Ad Hoc Committee on Physician Dispensing & Drugs

Adopted with commendation Recommendation 1, "that the MAG accept the AMA Board of Trustees Report K as its policy statement rel-

ative to generic drugs and that MAG concur with the recommendations contained therein."

Adopted Recommendation 2, "that physicians be encouraged to report inappropriate substitutions to the Board of Pharmacy with a copy to the MAG to help ascertain the extent of this problem."

Adopted Recommendation 3, "that this Committee be disbanded with the recommendation that the MAG Board of Directors devise a

mechanism to monitor these and other drug issues."

MAG Policy Compendium (Resolution 32)

Adopted Resolved portion as amended, "that the MAG staff completely update and maintain current, computerized compilation of MAG policies to enable prompt response to member enquiries about specific issues."

Reference Committee B

Medical Practice Committee

Adopted Recommendation 1, directing "that the MAG Medical Practice Committee continue to monitor developments in managed care, practice parameters, and clinical laboratory regulations."

Public Health Committee

Adopted Recommendation 1, directing "that the MAG Public Health Committee continue its scrutiny of new federal and/or state laws and regulations concerning infection control and biomedical waste and communicate these to physicians and their staff."

Adopted Recommendation 2, "that the MAG urge greater emphasis and funding be given to the Georgia DHR for contact tracing of AIDS and HIV-infected patients."

Adopted Recommendation 3, "that MAG support increased dialogue between clinicians and persons in public health, particularly through development of a liaison committee with the Georgia DHR's Commissioner and/or Public Health Division."

Third Party Payors Committee

Adopted Recommendation 1 with commendation, "that MAG continue its monitoring of PRO operations and provide a forum for physician problem resolution during

1991-92. Further, that the Association offer recommendations on laws and regulations which moderate the PRO's effect on the provision of medical care and the patient-physician relationship."

Adopted Recommendation 2 with commendation, "that MAG continue to communicate and inform physicians, in a timely manner, of the ongoing federal legislative changes in Medicare payment reform."

Adopted Recommendation 3 with commendation, "that MAG carefully monitor state regulations developed, as a result of H.B. 1813, the Utilization Review bill and inform physicians and patients of their rights in this regard."

Inclusion of Women in Biomedical Research (Resolution 3)

Adopted with commendation the first "Resolved" portion "that the MAG encourage the inclusion of women in all research on human subjects, except in those cases where it would be scientifically irrational, in numbers sufficient to ensure that the results of such research will benefit both men and women alike."

Adopted second "Resolved" portion "that the MAG state its support for the goals of the newly-created

Office of Research on Women's Health of the National Institutes of Health, and encourage its funding at appropriate levels."

Health Access America (Resolution 5)

Adopted resolution "that MAG staff prepare a comparative report analyzing various Health Access proposals available on the state and federal level and that a detailed presentation and discussion of the report be made at the September Board of Directors meeting. MAG staff is urged to use whatever outside help may be necessary to produce an accurate and insightful presentation."

Medicare Fact Sheet (Resolution 6)

Adopted as amended the first "Resolved" portion "that MAG put together a fact sheet that contains an overview and definitions of Medicare and Medicaid regulation terms such as MAAC, DRG, Provider, etc., the policy surrounding such terms and their implications."

Adopted as amended the second "Resolved" portion "that a Medicare and Medicaid fact sheet be distributed to the MAG leadership and be available for distribution to our legislators as needed."

General AIDS Policy (Resolution 11)

Recommendation 5 of the Public Health Committee (Comm: 23) and resolve 3 of Resolution 11 both pertain to HIV-infected physicians and were considered together. A substitute resolution was passed stating that, regarding the issue of potentially infectious diseases such as HIV and Hepatitis B, that the physician consider current evidence of such disease, and act prudently with the patients' best interest in mind.

HIV Reportable at the District Level (Resolution 14)

Adopted resolution directing "that the Medical Association of Georgia urges the Board of Human Resources to make HIV infection a reportable illness at the District Health level for the purpose of contact tracing."

Utilization of Unit Dose Medicines in Nursing Homes (Resolution 23)

Adopted with commendation, that the Medical Association of Georgia work with the Department of Medical Assistance, Medicaid, the Georgia Pharmaceutical Association, the State Board of Pharmacy, the Composite State Board of Medical Examiners, and other appropriate agencies to develop legislation to be presented at the next session of the legislature which would establish a mechanism to permit the utilization of unused unit dose medicines."

Medicare Reimbursement of Telephone Consultations (Resolution 24)

Adopted first "Resolved" portion that MAG urge the Health Care Fi-

nancing Administration to include telephone consultations under their list of covered services for reimbursement."

Adopted as amended the second "Resolved" portion, "that a resolution be submitted to the AMA urging it to offer support in promoting with HCFA the coverage of telephone consultations."

Reductions in Physician Nursing Home Visits (Resolution 26)

Adopted the first and second "Resolved" portions, "that MAG urge the Health Care Financing Administration and the Physician Payment Review Commission to immediately rescind the regulation which reduces nursing home visit reimbursements to multiple patients no greater than the reimbursement levels of a routine follow-up office visit; and allow physician nursing home visits to be reimbursed at their own rate and within their own cost center"; and be it further

"RESOLVED, that the AMA be asked to take whatever action is needed to rescind the nursing home reimbursement reduction regulation."

Legalization of Individuals who are HIV Positive for Immigration (Resolution 28)

Recommendation 4 of Public Health Committee be adopted in lieu of Resolution 28, directing "that MAG support the Arkansas Medical Society's position opposing changes in the list of 'communicable diseases of public health significance' and in the immigration requirements regarding infectious diseases which would allow HIV seropositive persons to immigrate permanently to the United States. Fur-

ther, any change now being considered should be delayed until further study can be made of the true threat this may pose to the nation and to the issue of permanent versus temporary immigration."

Physician Involvement in Prevention Program of HIV Transmission (Resolution 44)

"RESOLVED, the Medical Association of Georgia will identify physicians with interest and ability to form a *Task Force on Physician Involvement in HIV Prevention*, whose activities will include but not be limited to:

1. Study existing educational programs for both high risk groups and the community at large and help revise and develop programs if necessary.
2. Join county, state, and national medical organizations and public health officials to develop, implement, and evaluate specific HIV prevention guidelines and practical educational materials for use by all physicians (especially primary care) both in their individual practices and in their communities. The purpose of which is to:
 - a) enable all Georgians to protect themselves and others from HIV/AIDS.
 - b) promote an environment of care and compassion for HIV-infected persons in health care, business, school, and religious communities.
3. Establish and accomplish specific goals according to a timetable to assure no unnecessary delays in impacting on the devastating HIV/AIDS epidemic in Georgia."

Reference Committee C

Office of the President

Adopted Recommendation 6, di-

recting that "the Medical Association of Georgia continue to work

with the Board of Medical Examiners, the Secretary of State, and the

Legislature for specific legislation to improve the peer review mechanisms of physicians in the state so that for every physician there is a fair and equitable system available for resolution of grievances and that there is also protection for those members involved in peer review activities across the state. That the "Collins' Plan" be pushed in the Legislature for better policing of our profession."

Adopted Recommendation 7, directing "that the Interspecialty Council continue to be the outlet for specialty and subspecialty representation to the Medical Association of Georgia and that two or three meetings of this Council be scheduled per year in an effort to ensure all specialties are working together toward the legislative goals of the Association."

Adopted by Substitute Recommendation 8, "that the funds raised for tort reform activities be used for tort reform in accordance with the current policy of allowing the Board of Directors to allocate monies when specifically needed."

Adopted with commendation Recommendation 9, "that MAG continue to urge every member of the Medical Association of Georgia to be a part of GaMPAC."

Recommendation 11 Adopted by substitute, "that MAG continue to investigate all forms of tort reform including, but not limited to, the patient compensation fund model presently found in sister states."

Refer Recommendation 14 to MAG Board of Directors, "That MAG sponsor a resolution for the AMA June 1991 meeting of the House of Delegates urging the AMA to proactively seek federal statutory and regulatory changes which will contain health care cost attributable to medical advertising, using as a model the Israeli law that forbids advertising by any member of the learned professions."

Report of the Council on Legislation

Adopted with commendation Recommendation 1, "that MAG continue to develop and communicate a positive, pro-active legislative agenda focused on the delivery of the highest reasonable quality of patient care and the protection of a physician's role in the healthcare system."

Adopted with commendation Recommendation 2, "that the physicians of Georgia actively involve themselves in the continuing education of Georgia's legislators and other public officials on issues involved with healthcare policy. No citizen is better qualified to educate a public official on complex healthcare issues."

Adopted with commendation Recommendation 3, "that the members of MAG exert every effort to educate their legislators about the detrimental effects passage of SB 292, which would remove the floor for reimbursement differentials in PPO's, would have on the delivery of quality healthcare to Georgia's citizens."

Adopted with commendation Recommendation 4, "the members of MAG exert every effort to educate their legislators about the detrimental effects passage of HB 328, which would allow chiropractors to order lab tests they are not qualified to interpret, would have on the delivery of quality, cost-contained healthcare to Georgia's citizens."

Adopted with commendation Recommendation 5, "that the members of MAG exert every effort to educate their legislators about the detrimental effects passage of HB 185, which would allow physical therapists to practice without the benefit of a physician's consultation, would have on the delivery of quality healthcare to Georgia's citizens."

Adopted Recommendation 6, "that Continuing Medical Education credit hours be awarded to

those doctors attending the Medical Association of Georgia Leadership Conference or the Medical Association of Georgia Legislative Seminar. The public policy issues discussed at these meetings are of vital importance to the continued delivery of quality healthcare to the citizens of Georgia."

Adopted with commendation Recommendation 7, "that Mrs. Carolyn Moon and Mrs. Margaret Sybels and the Auxilians who participated so effectively in the 1990 Phone Bank be highly commended for their vital contribution to MAG legislative efforts."

Adopted with commendation Recommendation 8, "that all members of the Auxiliary who participated as Phone Bank volunteers be given written thank you letters by the Legislative Council Chairman."

Adopted Recommendation 9, "that the Physician Involvement Program (PIP) continue its essential role in the legislative process by encouraging increased participation among members and Auxilians."

Adopted Recommendation 10, "that every component medical society establish a Legislative Committee, if it has not already done so."

Adopted Recommendation 11, "that each component medical society's Legislative Committee be responsible for bringing a group of its physicians to the Capitol to participate *as a group* in the PIP Program at least once during the 1991 General Assembly."

Adopted Recommendation 12, "that the Composite State Board of Medical Examiners be urged to take any and all steps necessary to assist the Insurance Commissioner in the implementation of the Utilization Review Regulation Act, including, but not limited to, assisting with staffing, provision of expertise, and funding."

Adopted Recommendation 13, "each component medical society

ty's Legislative Committee should sponsor at least one function for its physicians and local legislators before the convening of the 1992 General Assembly."

Adopted Recommendation 14, "that the Legislative Council urge MAG membership to participate in campaign activities during the 1992 election year."

Adopted as amended Recommendation 15, "that MAG sponsor trips to Washington, D.C., by physician groups, at the physicians' expense, for the purpose of conveying our concerns about health care legislation to our Congressional delegation."

Maternal and Infant Health Committee

Adopted as amended Recommendation 1, "that MAG continue to encourage physicians to accept Medicaid patients for obstetrical care."

Adopted Recommendation 2, "that MAG pursue a legislative initiative to provide physician inducements for prenatal care for indigent women."

Lobbying Direct Access (Resolution 4)

Adopted as amended Recommendation 4, "that MAG compile a list of legislators' constituent physicians and mobilize these physicians as a political force."

Federal Budgetary Process as it Affects Medicare (Resolution 7)

Adopted, "that the AMA seek legislative reform of the federal budgetary process to remove last-minute changes in Medicare funding in the reconciliation budget process and to insure appropriate and timely public input."

Increasing Physicians Participation in the Medicaid Program (Resolution 10)

Adopted as amended, "that MAG continue to work with the Department of Medical Assistance to im-

prove policy and operational factors which would facilitate and encourage physicians to more fully participate in the program."

The Data Bank (Resolution 13)

Adopted as amended, "that MAG support the resolutions of the AMA and encourage the AMA to aggressively pursue legislative reform of the National Practitioner Data Bank in order to protect the civil liberties of American physicians."

Need for Georgia Department of Health (Resolution 15)

Adopted, "that the Medical Association of Georgia urge the Governor and the General Assembly to merge the health functions of Georgia government into a Department of Health headed by a medical doctor."

Roy Rowland Ambulatory Care Center (Resolution 17)

Adopted with commendation, "that because of his outstanding record of public service, the Medical Association of Georgia's House of Delegates recommends to Secretary of Veterans Affairs, The Honorable Edward J. Derwinski, that the new ambulatory care center under construction at the Carl Vinson VA Medical Center in Dublin, Georgia be named the J. Roy Rowland, M.D. Ambulatory Care Center."

Local Legislative Committees (Resolution 18)

Adopted, "that local medical societies set up Local Legislative Committees; and that these Local Legislative Committees be composed of members who agree to become well acquainted with their state legislators; and that the local legislative committee members agree to serve as a source of information between MAG and their own state legislators during the Georgia General Assembly."

State Support of Pediatric Residency Programs (Resolution 19)

Adopted as amended, "that the Medical Association of Georgia request increased state support of General Pediatric Residency programs designed to provide primary pediatric physicians to care for our children."

Prevention of Childhood Lead Poisoning (Resolution 21)

Adopted, "that the Medical Association of Georgia ask the Georgia Department of Human Resources to convene a study group during 1991, involving appropriate divisions within the agency as well as the physician director of the Georgia Poison Control Center and other knowledgeable parties, for the purpose of determining if the following two measures are indicated: (1) mandatory reporting of identified cases of elevated blood leads and, (2) a statewide statute requiring lead exposure abatement and clean up practices."

Physician-Patient Confidentiality in UR (Resolution 22)

Adopted as amended, "that MAG introduce additional regulatory requirements so that any insurer or entity working on behalf of any insurer seeking information on a patient's condition (1) submit a signed authorization from patients to each physician from whom they wish information, specifying either the reviewer with which the physician is entitled to discuss this information, or the established utilization review process of the hospital and (2) be limited to only that information pertinent to that claim — not a complete patient history file."

Elimination of CON (Resolution 25)

Adopted, "that MAG take immediate action to seek repeal of the Certificate of Need law in Georgia."

Regulation of Personal Care Homes (Resolution 27)

Adopted, "that MAG take action to see that present licensing and monitoring of personal care homes be strengthened to require more intensive inspection visits and adoption of stronger regulations concerning the health and supervision of clients residing in personal care homes."

Student Driver Education (Resolution 33)

Adopted, "that MAG support the reintroduction of a new, comprehensive, and model driver's education program through the public school system available to all students."

Reimbursement of Medical Care Cost for Female Indigents (Resolution 35)

Adopted, "that the House of Delegates endorse the introduction of legislation by MAG into the Georgia legislature to designate an insurance fund for the care of indigent women for the treatment of benign and malignant gynecological conditions."

Medicaid Sterilization (Resolution 36)

Adopted as amended, "that MAG seek to introduce federal legislation that would modify Medicaid regulations to conform to Georgia law (which allows sterilization procedures upon a person 18 years of age or over, or less than 18 years if legally married, provided that a re-

quest in writing is made by such person), and to modify the Medicaid required 30 day waiting period from the time of written permission given by the candidate; and further, that Medicaid should provide education about funding for vasectomies as well as tubal sterilizations."

Medicare Coverage (Resolution 37)

Adopted as amended, "that the Medical Association of Georgia, through its delegates to the AMA, encourage the AMA to work toward the introduction of legislation into the U.S. Congress that would sensibly reform Medicare coverage."

High Georgia Perinatal Mortality (Resolution 38)

Adopted as amended, "that the Medical Association of Georgia through its maternal and infant health committee and legislative committee, if necessary, work toward expansion of the scope of services of the Governor's Council on Maternal and Infant Health for the purpose of education and supervision of maternal and infant healthcare on a local level to be accomplished, in part, by creating a greater awareness for the general public of high risk circumstances, education of pregnant women of the signs and symptoms of pre-term labor, and training appropriately supervised healthcare workers in the prevention, detection and treatment of pre-term labor; and be it further

Resolved, that this agency be led

by a physician who would also work toward keeping practicing physicians up to date on current techniques for managing high risk pregnant women to reduce the risks of pre-term delivery; and be it further

Resolved, that MAG continue to seek appropriate funding for the Council on Maternal and Infant Health to allow it to accomplish these activities."

Laser Surgery (Resolution 40)

Adopted as amended, "that MAG encourage the adoption of legislation and regulations that laser surgery and therapy should be performed only by a licensed physician who meets appropriate professional standards as evidenced by training, experience and credentials; and be it further

Resolved, that MAG encourage and support state legislation and rulemaking by state medical boards in support of this policy."

Pre-participation Exam (Resolution 41)

Adopted as amended, "that the Medical Association of Georgia petition the State Senate and State House of Representatives to hold the physician not liable for consequences that derive from reliance on the screening service when the service is provided with no direct compensation to the physician and in good faith to the student athlete at the request of the school system and required by the State of Georgia."

Reference Committee D

Report of the President

Adopted with commendation Recommendation 4: "That the Scientific Assembly, the Leadership Conference, and the Legislative Seminar all be considered integral parts of the total program of the Medical Association of Georgia.

That they be conducted in a manner consonant with past years. That the Directors of these programs, i.e., Steve Davis and Richard Greene, be commended for their continued work in these exemplary programs."

Adopted with commendation

Recommendation 12: "That MAG form an Ad Hoc Committee on Violent Crime in our state with particular reference as to the effect of violence in the media, television and movies on violent crimes in Georgia, the extent of drugs and alcohol abuse on violent crime in

Georgia, the extent of child and spouse abuse and how these all relate to the cost of medical care and human misery and human lives; and that the Committee recommend to the House of Delegates a program at its next annual meeting for a comprehensive attack on violence and violent crime in Georgia, to include such measures as increased penalties for driving under the influence of drugs or alcohol, handgun control measures, mandatory publication of those convicted of violent crimes, sex crimes, spouse and child abuse, and such other measures that might be helpful in combating this great scourge upon our state."

Emergency Medical Services

Adopted with commendation Recommendation 1: "That the MAG become the organizing structure for facilitating voluntary disaster medical professional services."

Adopted with commendation Recommendation 2: "The Medical Association of Georgia is urged to promote physician education for disaster medicine in the following ways: a. By strongly encouraging medical schools to teach their students the principles of triage, chain of command teamwork, protecting themselves from becoming victims, and identifying and mobilizing resources; b. By strongly encouraging Georgia residency programs to teach those principles of disaster medicine to their residents; c. By encouraging in all appropriate ways the education of practicing physicians in the principles of disaster medicine which could include continuing education programs and appropriate meetings of MAG. If Georgia is to have an effective disaster medical response there must be a body of knowledgeable physicians who can respond."

Adopted with commendation Recommendation 3: "That MAG encourage education to prepare emergency responders for appro-

priate decontamination process in the event of hazardous, or toxic materials emergency."

Adopted with commendation Recommendation 4: "As a part of the development of a medical response plan for disasters in the State of Georgia, the Medical Association of Georgia, recognizing the need for mobile, ready teams of trained physicians, shall encourage and assist in the preservation of already existing teams and in the development of new teams throughout the state wherever appropriate and utilizing available resource. MAG shall encourage the four state medical schools to participate in developing teams of faculty and in helping with the training of non-school based teams."

Public Health

Adopted as amended Recommendation 6: "That MAG provide the membership with educational articles on the present OSHA guidelines regarding occupational exposure to Hepatitis B virus and Human Immunodeficiency Virus and any other pertinent infection control matters."

Senior Citizens Advocacy

Adopted with commendation Recommendation 1: "That the MAG Senior Citizens Advocacy Committee work with all appropriate agencies to develop and implement recommendations to improve long term care in Georgia."

Adopted as amended Recommendation 2: "That MAG convey through its *Journal* and *Newsletter* information about the living will and durable power of attorney to all MAG members, including text of the documents, and emphasizing the efficacy of the durable power of attorney."

Recycling at Annual MAG House of Delegates Meeting (Resolution 1)

Adopted as amended the first Re-

solved portion: "That the MAG investigate the greater use of recyclable white paper at annual meetings, and the feasibility of recycling white paper, which would otherwise be discarded, by providing special containers for this paper at annual meetings."

Adopted as amended the second Resolved portion: "That if such a program is found to be feasible, the MAG charge its Medical Student Section with the responsibility of implementing a recycling program and other conservation measures at future annual meetings as early as 1992."

Conservation at the MAG Offices (Resolution 2)

Adopted the following Resolved portion with commendation: "That the MAG instruct its officers and personnel to use environmental sound corporate practices whenever feasible, including but not limited to conservation of electricity and recycling white paper."

Regarding Recycling and Conservation (Resolution 8)

Adopted the following Resolves with commendation: "That the Medical Association of Georgia encourages all Component Medical Societies to immediately implement recycling programs in their offices."

"That the Executive Committee of MAG communicate to each and every physician and hospital in the State of Georgia the importance of implementing recycling programs within each facility."

General AIDS Policy (Resolution 11)

Adopted first Resolved portion: "That every physician coming in contact with patients infected with the AIDS virus should treat them with the utmost compassion as fellow human beings and with the same professionalism as any other patient."

Adopted the second Resolved portion with commendation: "That MAG support the AMA's effort at the state level in urging classification of HIV infections as a communicable, sexually transmitted disease which 'implicitly supports HIV reporting and contact tracing.'"

The AIDS Epidemic & Specific Suggestions for Containment (Resolution 12)

Adopted the first Resolved portion: "That every physician treating and caring for AIDS patients should remember compassion and professionalism in their treatment of these unfortunate human beings."

Adopted the second Resolved as amended: "That MAG exert its influence in the state and federal legislature to: (1) encourage investigation of all possible methods of HIV transmission; (2) encourage the formation of specialized AIDS treatment centers; (3) encourage more HIV testing and consider quarantining those who have proved a danger to the public (*i.e.*, criminals and repeat sexual offenders afflicted with AIDS); (4) promote confidentiality of those infected, but not to the extent it supersedes the rights of the public; and (5) support AMA's decision to re-examine current policies about exposure to the HIV virus."

CMS's Evaluating Utilization Review Studies (Resolution 16)

Adopted Resolved with commendation: "That the Medical Association of Georgia assist local medical societies in properly evaluating health care utilization studies."

Annual Community Project (Resolution 20)

Adopted first Resolved as amended: "That each local medical society be encouraged to consider an annual community project that the local medical society with the assistance of MAG could participate in, for the betterment of its community."

Adopted the second Resolved with commendation: "That each local medical society should further encourage its physician community and their spouses to participate in other community activities."

Agenda For Health Care (Resolution 29)

Adopted first Resolved as amended: "That MAG begin to implement 'Health Access Georgia' by presenting it and other appropriate health care programs to the Georgia General Assembly in a positive and constructive manner."

Adopted the second Resolved as amended: "That MAG members

work more vigorously between legislative sessions to educate the public and legislators regarding these positive and constructive health care agenda items."

Long-term Practice Coverage (Resolution 30)

Adopted: "That the MAG investigate various services able to assist physicians with long-term practice coverage (*e.g.*, locum tenens) in order to serve as a clearinghouse for the future for members inquiring about such services."

Standard Sports History Form for Student Athletes (Resolution 42)

Adopted: "That the Medical Association of Georgia design a standard sports history and physical form and forward to the Georgia High School Association for their consideration and adoption."

Emergency Middle East Health Care (Resolution 43)

Adopted with commendation: "That the Medical Association of Georgia beseech the American Medical Association to take the lead in coming forward with an appropriate, active program to deal with the emergency health care needs of our unfortunate neighbors in the Middle East."

Report of Reference Committee F

Establishing a Goal for Non-dues Income (Resolution 31)

Adopted as amended: "RESOLVED that the Medical Association of Georgia House of Delegates support efforts to increase non-dues income. All endorsement endeavors are to be approved by the Executive Committee."

"RESOLVED, that the MAG staff continue its investigation into the pursuit of sources of non-dues income, with a goal of raising at least \$50,000 by May 31, 1992."

Building and Land

Adopted recommendation 1 "that we do not solicit purchasers of our property, but consider offers when approached by prospective buyers as there apparently is no current interest in selling our property."

Chairman of the Board — Budget

After much discussion from numerous members concerning various programs, no areas were found in which the expenditures could be

reduced enough to balance the budget. Therefore, the consensus of the House was that a dues increase must be approved if the membership was unwilling to cut programs or services. Some of the key accomplishments of the legislative activities during the past year are as follows:

- Non-renewal of HealthCare Corporation's contract with HCFA in Georgia
- \$2.1 Million Recoupment for overpriced procedures

Successful defense of Savannah Obstetricians for potential anti-trust violations
 Defeat of Senate Bill 292 (PPO expansion — setting PPO rates at 50% of UCR)
 Defeat of proposed \$1.5 Million Medicaid Copayment requirement in state '92 budget
 \$1.5 Million Medicaid Rate Increase
 Adopted by substitution Exhibit I II of the Budget:

ong Range Planning Committee

Accepted with commendation the following recommendations:
 MAG's By-Laws should be examined and, if necessary, modified to permit the effective implementation of the Long Range Plan.

The Association's current program and service efforts should be assessed in terms of the Plan's recommended objectives, strategies, and activity areas.

The preceding analyses should be used as input to define short- and long-term priority areas for implementation through: (a) enhancement or reductions in current activities or efforts; and (b) initiation of new activities or efforts.

Short-term priority areas for existing or new programs identified in the preceding tasks should be used as a framework for the development of MAG's budget for the next fiscal year. Results of the implementation of the two preceding tasks should be assessed by the Association's Executive Committee and Board of Directors; and presented to the House of Delegates.

Pending approval of the Plan and related implementation strategies, MAG's Committees and staff

EXHIBIT I

Key Recommendations:

- I. Recommended dues and subscription fees are as follows:

Membership Type/Bill Class	FY92
Active Members	
Full Dues	\$450
New in Practice, 2/3 off	\$150
New in Practice, 1/3 off	\$300
Intern or Resident-Subscription Fee	\$25
Subscription Fee	
Associate	\$100
Student, single year	\$20
Student, 4 year subscription	\$67
The increased dues and subscription fees as listed above will change the dues revenue line to \$2,372,264.	

- II. Twelve issues of the *Journal* should be published in FY 1992. The budget amount for the *Journal* should be \$150,000. The full proceedings of the 1991 House of Delegates should not be published in the *Journal* but sent to delegates and alternate delegates, and other members upon request. Abstracts of transactions of the House of Delegates shall be published in the *Journal* as required by the by-laws.
- III. For the next two years, the names and addresses of new members, officers, and address changes (as submitted by members) should be published in the *Journal*.
- IV. Capital budget requests for building improvements be referred to the Board of Directors.
- V. That the budgeted amount for the impaired physician committee should be \$55,000. In addition, a voluntary contribution for the impaired physician committee in the amount of \$50 should be placed on the dues statement. All members are encouraged to contribute to this worthwhile measure.

should be charged with responsibility to implement this Long Range Plan in a timely and effective fashion.

7. This Long Range Plan should be updated on an annual basis to ensure it is responsive to changing conditions in the profession of medicine; and members' expectations for MAG benefits, services, and programs."

Report of the President — Recommendation 5

Adopted as amended Recommendation 5 "That membership recruitment become an important part

of the annual meeting. That the Membership Chairman, Dr. Roy Vandiver, be given time and monetary wherewithal to provide a membership recruitment program that will continue to take us where we need to be at MAG and AMA membership levels for our state. Specific goals should be set for each year for each organization and every effort be made to reach these goals. We encourage the committee to include in the recruitment efforts the information concerning the legislative activities affecting physicians income."

Constitution and Bylaws Committee

Committee on Constitution and Bylaws

CHAPTER V. BOARD OF DIRECTORS, SECTION 2. ELECTION OF DIRECTORS AND ALTERNATE DIRECTORS.

Voted to amend the Bylaws to provide that County or District So-

cieties may choose to elect a successor to an alternate director, who is unable to continue to serve, or utilize the order of succession specified in the Bylaws.

CHAPTER VIII. COMPONENT COUNTY SOCIETIES SECTION 7. DUTIES AND SECTION 10. ANNUAL MEETING

Voted to amend the Bylaws to delete, from the standards for county societies, the requirement of a minimum of four meetings a year; and that officers and delegates be elected at an annual meeting before February 1.

EXHIBIT II MEDICAL ASSOCIATION OF GEORGIA BUDGET SUMMARY

Revenue	Projected FY91	Fav (Unfav) FY91 Budget vs. FY91 Proj	FY 1991 Budget	Fav (Unfav) FY92 Budget vs. FY91 Budget	Proposed FY 1992 Budget
Dues Revenue	\$2,136,088	(\$205,171)	\$2,341,259	\$31,005	\$2,372,264
Advertising Revenue					
<i>Journal</i> -Local Advertising	43,828				
<i>Journal</i> -National Advertising	29,679				
Directory Advertising	15,813				
Total Advertising	89,320	(45,680)	135,000	(55,000)	80,000
MAG Mutual Agreements	182,500	0	182,500	10,000	192,500
Scientific Assembly	62,990	20,490	42,500	(42,500)	
Leadership Conference	22,570	3,570	19,000	0	19,000
<i>Journal</i> Subscriptions	9,000	3,000	6,000	1,500	7,500
AMA Refund	17,200	(2,800)	20,000	(5,000)	15,000
Data Processing	7,500	2,500	5,000	(15,000)	6,500
Interest Income	90,000	(5,000)	95,000	(7,000)	88,000
Rental Income	30,000	4,000	26,000	17,500	43,500
Miscellaneous Income	50,000	20,000	30,000	53,235	83,235
Exhibitor fees & sponsorships	12,000	12,000		12,000	12,000
Impaired Physicians	3,500	3,500		0	
TOTAL REVENUE FROM OPERATIONS	\$2,712,668	(\$189,591)	\$2,902,259	\$17,240	\$2,919,499
EXPENDITURE SUMMARY					
Administration	\$1,542,999	\$152,060	\$1,695,059	(\$70,772)	\$1,765,831
Membership Services	343,516	(80,786)	262,730	1,630	261,100
Building	97,987	31,853	129,840	840	129,000
<i>Journal</i>	189,658	(458)	189,200	39,200	150,000
Depreciation	120,248	(10,248)	110,000	37,915	72,083
Board Contingent	15,000	5,000	20,000	0	20,000
Committees	515,216	(19,786)	495,430	42,980	452,450
EXPENDITURES REGULAR OPERATIONS	\$2,824,624	\$77,635	\$2,902,259	\$51,793	\$2,850,466
REVENUE OVER EXPENSE	(\$111,956)	(\$111,956)	\$0	\$69,033	\$69,033
REGULAR OPERATIONS					

EXHIBIT II

MEDICAL ASSOCIATION OF GEORGIA

BUDGET SUMMARY

	Projected FY91	Fav (Unfav) FY91 Budget vs. FY91 Proj	FY 1991 Budget	Fav (Unfav) FY92 Budget vs. FY91 Budget	Proposed FY 1992 Budget
ADMINISTRATION					
Salaries	\$1,016,125	\$105,093	\$1,121,218	(\$12,821)	\$1,134,039
Port Reform Allocation	(30,000)	0	(30,000)	(30,000)	0
Total Salaries	986,125	105,093	1,091,218	(42,821)	1,134,039
Health Insurance	92,303	9,144	101,447	(46,537)	147,984
Disability Insurance	3,774	665	4,439	92	4,347
ICA Tax	65,290	4,204	69,494	302	69,192
Unemployment-State	139	0	139	0	139
Unemployment-Federal	1,511	15	1,526	0	1,526
Retirement	69,052	9,844	78,896	(808)	79,704
Legal Fees	26,000	(1,000)	25,000	(5,000)	30,000
Telephone & Telephone Equip.	42,000	3,000	45,000	3,000	42,000
Postage	14,000	31,000	45,000	25,000	20,000
Staff Travel	50,000	2,000	52,000	(1,500)	53,500
Printing	2,000	8,000	10,000	5,000	5,000
Dues & Subscriptions	7,000	10,000	17,000	7,000	10,000
Audit, Tax & Payroll	32,000	(2,000)	30,000	(3,000)	33,000
Equip. Maintenance & Xerox	18,000	(4,500)	13,500	(4,500)	18,000
Pension Administration	10,000	(7,500)	2,500	(2,500)	5,000
Consulting & Temporary Help	6,246	(246)	6,000	0	6,000
Office Supplies & Other	25,000	6,000	31,000	5,000	26,000
Income Taxes	24,000	(24,000)		(18,000)	18,000
Insurance	13,363	10,529	10,800	(4,700)	15,500
OP Equipment Maintenance	10,809	1,191	12,000	8,000	4,000
OP Supplies	8,000	(2,000)	6,000	(2,000)	8,000
OP Consulting Fees	3,000	2,000	5,000	0	5,000
OP Office Operations	5,462	(162)	5,300	(600)	5,900
Resident Provisional Fund	24,000	0	24,000	0	24,000
Franklin/Woody Benefits	3,925	3,875	7,800	7,800	0
TOTAL ADMINISTRATION	<u>\$1,542,999</u>	<u>\$165,152</u>	<u>\$1,695,059</u>	<u>(\$70,772)</u>	<u>\$1,765,831</u>
BUILDING					
Building Maintenance	\$14,706	\$10,294	\$25,000	\$7,000	\$18,000
Sanitorial Service	17,418	1,582	19,000	0	19,000
Insurance	5,515	2,485	8,000	2,000	6,000
Utilities	37,545	5,295	42,840	1,840	41,000
Ad Valorem Tax	22,803	12,197	35,000	(10,000)	45,000
TOTAL BUILDING	<u>\$97,987</u>	<u>\$31,853</u>	<u>\$129,840</u>	<u>\$840</u>	<u>\$129,000</u>

Committee on Constitution and Bylaws

CHAPTER II. MEMBERSHIP.

Voted to amend the Bylaws by deleting the requirement that candidates for affiliate membership must be approved by the House of Delegates.

Committee on Constitution and Bylaws

CHAPTER V. BOARD OF DIRECTORS, SECTION 4. EXECUTIVE COMMITTEE.

Voted to amend the Bylaws by adding the Vice Chairman of the

Board to the Executive Committee as a voting member.

Committee on Constitution and Bylaws

CHAPTER V. BOARD OF DIRECTORS, SECTION 2. ELECTION OF DIRECTORS AND ALTERNATIVE DI-

EXHIBIT II

MEDICAL ASSOCIATION OF GEORGIA BUDGET SUMMARY

	Projected FY91	Fav (Unfav) FY91 Budget vs. FY91 Proj	FY 1991 Budget	Fav (Unfav) FY92 Budget vs. FY91 Budget	Proposed FY 1992 Budget
MEMBERSHIP					
Annual Session	\$68,000	(\$18,000)	\$50,000	(\$20,000)	\$70,000
Travel-President	15,000	3,000	18,000	3,000	15,000
Travel-President Elect	7,000	(1,000)	6,000	(2,000)	8,000
Travel-Past President	4,800	1,200	6,000	0	6,000
Travel-AMA Delegates	40,000	6,000	46,000	2,000	44,000
Caucus Expenses	19,715	(5,715)	14,000	(6,000)	20,000
Executive Committee Provisional	16,000	(8,500)	7,500	2,500	5,000
Executive Committee Travel	21,500	(3,000)	18,500	(3,500)	22,000
Board Meetings	22,000	(7,000)	15,000	(7,000)	22,000
President Executive Fund	14,000	0	14,000	0	14,000
Medical Student Section	8,780	4,220	13,000	0	13,000
Resident Physician Section	4,122	908	5,030	990	4,040
Young Physician Section	6,000	1,700	7,700	(5,360)	13,060
Membership	4,000	6,000	10,000	5,000	5,000
Directory	92,599	(60,599)	32,000	32,000	
TOTAL MEMBERSHIP	<u>\$343,516</u>	<u>(\$80,786)</u>	<u>\$262,730</u>	<u>\$1,630</u>	<u>\$261,100</u>
JOURNAL					
Printing	\$144,000	\$1,000	\$145,000	\$22,697	\$122,303
Photo Processing	1,000	500	1,500	900	600
Advertising Promotion	2,400	100	2,500	1,400	1,100
Postage	19,500	(500)	19,000	9,250	9,750
Clipping Service	660	(360)	300	(360)	660
Dues & Subscriptions	200	200	400	100	300
Consulting Services	10,000	0	10,000	0	10,000
Artwork	6,875	(75)	6,800	4,300	2,500
Travel	2,790	(90)	2,700	1,300	1,400
Editorial Board Meeting	692	(692)	0	(387)	387
Office Operations	1,541	(541)	1,000	0	1,000
Bad Debt Expense					
TOTAL JOURNAL	<u>\$189,658</u>	<u>(\$458)</u>	<u>\$189,200</u>	<u>\$39,200</u>	<u>\$150,000</u>

RECTORS.

Voted to amend the Bylaws by clarifying original intent to authorize county societies to conduct elections by mail ballot.

Specialty Society Representation (Resolution 39)

ARTICLE V. HOUSE OF DELEGATES, SECTION 1. COMPOSITION.

Voted to receive Resolution that

embodied a constitutional amendment which must lay on the table for a year before it can be voted on by the House. Resolution: if adopted, would authorize a Delegate and Alternate Delegate to represent, in the House of Delegates, each specialty society on the Inter-specialty Council.

County Society Delegate Election (Resolution 45)

CHAPTER IV. HOUSE OF DELE-

GATES, SECTION 2. COMPOSITION.

Voted to refer this Resolution to the Committee on Constitution and Bylaws for review and presentation to the House in 1992. The resolution, if adopted, would delete from the Bylaws the requirement that Delegates and Alternates shall have been members of MAG for the three years immediately preceding the year elected.

EXHIBIT II

MEDICAL ASSOCIATION OF GEORGIA BUDGET SUMMARY

	Projected FY91	Fav (Unfav) FY91 Budget vs. FY91 Proj	FY 1991 Budget	Fav (Unfav) FY92 Budget vs. FY91 Budget	Proposed FY 1992 Budget
DEPRECIATION					
Depreciation-Building	\$35,000	(\$3,000)	\$32,000	\$18,000	\$14,000
Depreciation-Equipment	22,000	10,000	32,000	14,000	18,000
Amortization-Phone	11,085	(11,085)		(11,085)	11,085
Depreciation/Amortization	52,163	(6,163)	46,000	17,000	29,000
TOTAL DEPRECIATION	<u>\$120,248</u>	<u>(\$10,248)</u>	<u>\$110,000</u>	<u>\$37,915</u>	<u>\$72,085</u>
COMMITTEES					
Access to Health Care	\$2,605	(\$405)	\$2,200	\$500	\$1,700
Auxiliary	44,310	0	44,310	21,810	22,500
Doctor-of-Day	8,000	2,000	10,000	0	10,000
Hospital Medical Staff	3,500	6,500	10,000	0	10,000
Impaired Physicians	46,090	11,310	57,400	2,400	55,000
Aux.-Teen hlth & OPALS Forums	14,200	800	15,000	15,000	0
Leadership Conference	31,811	(12,811)	19,000	0	19,000
Legislation	125,000	(5,000)	120,000	(20,000)	140,000
Legislative Bulletin	49,962	(9,962)	40,000	0	40,000
Tort Reform Alloc. to Legis.	(45,000)	0	(45,000)	(45,000)	0
Long Range Planning	15,220	(8,220)	7,000	7,000	0
Medical Aspects of Sports	1,135	1,065	2,200	0	2,200
Medical Practice	835	(335)	500	(200)	700
Medical Schools	947	53	1,000	0	1,000
Newsletter	46,000	(1,000)	45,000	4,000	41,000
Physician Involvement Program	5,359	(1,859)	3,500	2,500	1,000
Physician-Lawyer Liaison		0	0	0	
Public Health	424	576	1,000	(1,500)	2,500
Public Relations	108,670	0	108,670	18,470	90,200
Scientific Assembly & CME*	47,148	(8,498)	38,650	35,000	3,650
Third Party Relations	9,000	6,000	15,000	3,000	12,000
TOTAL-COMMITTEES	<u>\$515,216</u>	<u>(\$19,786)</u>	<u>\$495,430</u>	<u>\$42,980</u>	<u>\$452,450</u>

Continuing Education Committee merged with Scientific Assembly Committee by House Action 4/90.

*Legislation, Bulletin, & Allocation from Tort Reform were combined on last year's budget as \$115,000.

Gratuitous Recommendation of Reference Committee on Constitution and Bylaws

Voted to refer to the Board of Di-

rectors a recommendation that a committee of the Board undertake a total revision of the Constitution and Bylaws.

Georgia's New "No Code" Law

Cynthia Haney

MUCH CONCERN has been expressed in recent weeks by hospitals and physicians alike regarding proper implementation of Georgia's new "Do Not Resuscitate" law, which went into effect on April 24 of this year. Georgia is only the second state in the union to implement such legislation regarding "do not resuscitate" orders (New York being the first), although several other states are currently considering this step forward in recognizing the need for such legislation. Georgia finds itself on this cutting edge largely due to the opinion of the Georgia Supreme Court in the case of Larry McAfee, the ventilator-dependent quadriplegic who fought the state to win the right to determine his medical destiny. There, the Court asked for the General Assembly's guidance in establishing a statutory basis for administering "no code" orders without incurring liability. This law attempts to do just that.

What It Does Not Do

Before discussing what the law does, let us spend a moment discussing those things it does *not* do. It does *not* demand that all "no code" orders require a concurring physician; and when it does require a concurring physician, that person does *not* need to be a disinterested physician. The law does *not* override the Living Will or Durable Power of Attorney for Health Care but rather supplements them. It does *not* presume that CPR should be admin-

istered to everyone, regardless of the physician's judgment. It presumes that all adults *consent* to CPR, barring an advance directive to the contrary; it does *not* presume that all adults *want* CPR. This is a subtle, but important, nuance critical to understanding the new law. The law unfortunately does not fill in all the blanks in Georgia's "death with dignity" law — a task that may be impossible, due to the unending variety of circumstances in which patients and physicians find themselves.

What It Does Do

What the new law does do is to induce physicians to sit down with patients and discuss the unsettling reality of death. Physicians may have hesitated in the past to discuss "do not resuscitate" (DNR) orders with patients because of the difficulty that many patients understandably have in facing the inevitability of their eventual death, because the patient's youth or condition do not seem to warrant such discussion, or because of the difficulty some physicians have in facing the fact that some patients cannot be made well . . . that medicine can fail us.

The American Medical Association's guidelines suggest discussing DNR orders only with patients who are at risk for cardiopulmonary arrest.¹ Other sources suggest that physicians routinely discuss CPR

with all adults who are admitted for medical and surgical care.² Indeed, the federal Omnibus Budget Reconciliation Act of 1990 (OBRA) requires that hospitals have written policies and procedures for providing adult admissions with written information regarding state laws on accepting and refusing medical and surgical treatment.* In addition, the written information must also spell out for the patient his or her right to set out advance directives and must explain the hospital's policy regarding the implementation of such rights. These federal requirements are effective starting December 1 of this year.

Hospitals will also be required to have *written* policies and procedures for documenting advance directives, whether from the patient or a surrogate, in the medical record. Therefore, it is important for physicians to become involved on the hospital medical staff level in the development of these, as well as all other DNR order-related, policies and procedures. The goal of this article is to initiate you as to the broad brush implications of the new law. The Medical Association of Georgia has been working with

* As a political footnote, it was only through the intervention of MAG's Executive Director, Paul Shanor, and General Counsel, Richard Greene, in the final-hour negotiations of OBRA in Washington that kept *physicians* from coming under a similar federal requirement to provide all patients with living wills and durable powers of attorney for health care. Understand that this is not because we don't think such foresight is desirable, but because MAG policy opposes governmental entities interposing themselves in the patient-physician relationship.

Ms. Haney is MAG's Assistant Legal Counsel.

the Georgia Hospital Association in developing model guidelines for hospitals to use as a starting point in developing policies and procedures particular to their own institution. As you read this, these model guidelines have already been distributed throughout the state to hospitals and chiefs of medical staffs for their use. If you would like your own copy, please contact your hospital or MAG.

An Overview of the Statute

Georgia's new DNR law has, at its foundation, the respect for the individual patient's wishes regarding his or her medical care. The General Assembly recognized that, "in the interest of protecting personal autonomy, cardiopulmonary resuscitation in some circumstances may cause loss of patient dignity and unnecessary pain and suffering."³ It therefore set up a system for patients to be assured of this autonomy. The patient's wishes, if they are known ahead of time and made while the patient has "decision-making capacity," are paramount and should guide the physician in that patient's care. "Decision-making capacity" is an important term in the law because it determines if a patient can speak for himself or not. It is defined as "the ability to understand and appreciate the nature and consequences of an order not to resuscitate, including the benefits and disadvantages of such an order, and to reach an informed decision re-

garding the order."⁴

All patients are presumed by the law to have "decision-making capacity" unless there is a determination otherwise documented in the patient's medical records or by a court order.⁵ Where a patient has knowingly and informedly made the decision for a DNR order, the physician's opinion is irrelevant (thus also obviating the need for a concurring physician, of course). This decision may be documented in an advance directive, such as the Living Will or Durable Power of Attorney for Health Care, or it may be the result of the patient's communications with the physician or other hospital staff members — as long as it is properly documented in the medical records.

Surrogate Decision-Makers

If the patient lacks "decision-making capacity," then another set of more demanding rules come into play. The physician must first establish if the patient is a "candidate for nonresuscitation." This is another important term defined by the General Assembly to mean:

a patient who, based on a determination to a reasonable degree of medical certainty by an attending physician with the concurrence of another physician:

- (A) has a medical condition which can reasonably be expected to result in the imminent death of the patient;
- (B) is in a noncognitive state with no reasonable possibility of re-

gaining cognitive functions; or (C) is a person for whom cardiopulmonary resuscitation would be medically futile in that such resuscitation will likely be unsuccessful in restoring cardiac and respiratory function or will only restore cardiac and respiratory function for a brief period of time so that the patient will likely experience repeated need for cardiopulmonary resuscitation over a short period of time.⁶

Two points bear emphasizing: first, that the attending physician must consult another physician in determining that the patient fits one of the three categories listed above. Second, that establishing the patient as a "candidate for nonresuscitation" is a threshold for further decisions; it does not automatically mean that a DNR order will be on the patient's charts.

Passing this threshold, the physician must then confirm whether an authorized surrogate decision-maker is available. The statute provides a list, in descending order of priority, as to whom should be consulted to represent the patient's wishes:

- (1) any agent appointed by a durable power of attorney for health care
- (2) a spouse
- (3) a guardian over the person appointed pursuant to Georgia law
- (4) a son or daughter aged 18 years or older

- (5) a parent (custodial, in the case of a minor)
- (6) a brother or sister aged 18 or older.⁷

While the first three listings are clear enough, some confusion may result in the last three in which more than one person can fit the category of "authorized person" at any given time. A patient may have more than one son or daughter, more than one living parent, or several brothers or sisters. The statute is silent as to whom among those equally authorized is to have the final decision. Physicians are all too familiar with the "distant child" syndrome: the children who have kept in touch with their dying parent are comfortable with the decision to not resuscitate, however the child who hasn't called his parent in years guiltily demands that "everything be done to save" the parent. In such a situation, it is generally best for the physician to insist that the family sort out its differences before issuing a DNR order.

Physician-Initiated DNR Orders

What if a surrogate decision-maker is unavailable? The physician may issue a DNR order, provided that:

- (1) the physician determines, in writing in the patient's medical record, that the patient is a "candidate for nonresuscitation," after obtaining concurrence from another physician; *and*
- (2) an ethics committee, or some similar panel designated by the hospital or facility, agrees with the determination of the attending and concurring physicians.⁸

The statute is flexible in its determination of what committee or panel is appropriate to make such a concurrence. MAG and GHA are suggesting that, as a back-up to its regular ethics committee, the hospital appoint a small panel composed of the hospital CEO, the chief

of the medical staff or their designees, and perhaps a few others as long as the members of the panel agree to stay in telephone contact with the facility, most probably through a pager system.

Living Wills and Durable Powers of Attorney for Health Care

The statute specifically addresses the possibility that a patient may have already executed a Living Will or Durable Power of Attorney for Health Care that sets out the patient's wishes regarding DNR orders. The Durable Power of Attorney for Health Care authorizes the patient to appoint a surrogate or "agent" to make decisions on the patient's behalf if that patient loses decision-making capacity. If the patient has executed a Durable Power of Attorney for Health Care, that agent is the "authorized person" physicians should turn to first if the patient lacks the capacity to make decisions regarding DNR orders.

A Living Will directly authorizes the physician to withhold "life-sustaining procedures" (which includes CPR) if the patient has a "terminal condition," defined as "an incurable condition caused by disease, illness or injury which, regardless of the application of life-sustaining procedures, would produce death." The procedure for establishing a "terminal condition" is as follows: two physicians, after personally examining the patient, shall certify in writing based upon conditions found during the course of their examination that:

- (a) there is no reasonable expectation for improvement in the condition of the patient;
- and*
- (b) death of the patient from these conditions is imminent.

Clearly, the conditions to be met to authorize a "no code" order on a patient with a Living Will can be more stringent than those author-

ized by the DNR statute. If a patient has both a Living Will and has met the qualifications for a "no code" order under the DNR statute, the rights therein are cumulative rather than superseding.

Revocation and Immunities

The statute provides for the revocation of a DNR order on the chart by the patient him or herself, the surrogate or by the physician, and such revocation can be instigated by either changed circumstances of the patient or simply a change of mind.

The genesis for the law's passage was in providing physicians and hospitals a "safe harbor" in effectuating DNR orders in good faith without fear of legal reprisals. The DNR law provides for immunity from both criminal and civil liability for any health care provider when the person or entity is carrying out a DNR order in good faith. The flipside is also true: a provider cannot be liable for administering CPR to a patient who has a DNR order on his or her chart, as long as the provider reasonably believes in good faith that the order did not exist or that it had been revoked or canceled.

Physician Decisions under the New Law

The American Medical Association's Council on Ethical and Judicial Affairs, in conjunction with many noted, published medical authorities, has established that two exceptions are recognized to the presumption favoring CPR administration.⁹ The first is if a patient has expressed in advance his or her preference that CPR be withheld, or a surrogate decision maker may make the decision to forego CPR on the patient if that patient lacks decision making capacity. This scenario is addressed by Georgia's "no code" statute.

The second exception to the presumption favoring CPR is when, in the judgment of the treating physician, an attempt to resuscitate the patient would be futile. The statute addresses this judgment factor in describing the process for declaring a patient a "candidate for non-resuscitation." However, this is the type of determination to be made *before* an emergency suggesting the possibility of using CPR arises. Then, the physician is able to obtain another physician's concurrence and that of an ethics committee.

But what happens in emergency situations — both on the ward and in the emergency room? Time does not always allow for concurrences when a patient is being wheeled into the E.R. having a major stroke. Does the statute demand that the patient be resuscitated no matter what condition that patient is in or what the E.R. physician judges to be the futility of the patient's situation? The vast majority of published authorities on this subject agree: No, the patient need *not* be automatically resuscitated no matter what his condition. However, the statute's immunity provisions will *not* attach in these emergency circumstances which call for procedures outside those delineated by the statute.

Authorities generally agree that a physician is not ethically obligated to make a specific diagnostic or therapeutic procedure available to a patient, even on specific request, if the use of such procedure would be futile. The significant qualifier here is in how "futility" is judged. In the strictest sense, treatment is "futile" when it offers no benefit to the patient. But judgments of futility

involve value choices as well as scientific evaluations. Some patients may want the choice of living a few extra hours or days — even if they won't leave the hospital alive — whereas others simply want their misery to end. The ultimate guideline suggested by both the American Medical Association and Georgia caselaw is to respect the patient's autonomy; therefore, "futility" must be judged according to the patient's goals.

It would be simplistic to expect this context of the patient's goals to answer all our questions about whether to initiate CPR on a patient. Physicians must not consider only the relative harms and benefits to the single patient, but must also consider the impact of his or her decision on the limited resources of the hospital, often using a "triage" mentality. There are a limited number of ventilators, intensive care beds, nurses, and physicians available in any given facility. Should a patient who is certain to die the moment he or she is removed from a ventilator deny its use to someone who might have a better chance of surviving off the ventilator once resuscitated?

Although the statute does not directly address these questions of humanity and hospital policy, its intent, stated in its preamble, supports such an interpretation. It could not have been the Georgia General Assembly's intention to usurp utterly a physician's judgment in all cases where CPR might be performed. Taken literally, *every* patient who dies experiences cardiac arrest; could that then mean that CPR must be used on every patient who is dying unless they have

specifically requested a "no code" order? Probably not. The statute does *not* presume that everyone lacking an advance directive regarding DNR orders *wants* to be resuscitated. Rather, it presumes that all adults *consent* to the administration of CPR unless they have an advance directive or other authorization stating otherwise. There is still some room for the physician to exercise professional judgment.

As your hospital(s) work with the medical staff to establish the precise policies and procedures it will follow in implementing the statute's requirements, you are urged to keep these comments and guidelines in mind. Although seemingly complex, the requirements will have the benefit of letting patients and hospital staff alike understand what is required of them. Hospitals and physicians benefit through lower legal risks and an enhanced community reputation for respecting patient autonomy. Hospital policies are not carved in marble. As experience teaches us, we can modify our hospital documents to best reflect the particular circumstances of each institution and its medical staff.

Notes

1. AMA Council on Ethical and Judicial Affairs, "Guidelines for the Appropriate Use of Do-Not-Resuscitate Orders," 265 *Journal of the American Medical Association* 14, 1871 (April 10, 1991).
2. Lo, "Editorial: Unanswered Questions About DNR Orders," 265 *JAMA* 14, 1875 (April 10, 1991).
3. O.C.G.A. Section 31-38-1.
4. O.C.G.A. Section 31-38-2(6).
5. O.C.G.A. Section 31-38-3(b).
6. O.C.G.A. Section 31-38-2(4).
7. O.C.G.A. Section 31-38-2(3).
8. O.C.G.A. Section 31-38-4(e).
9. AMA Council on Ethical and Judicial Affairs, "Guidelines for the Appropriate Use of Do-Not-Resuscitate Orders," 265 *JAMA* 14, 1868 (April 10, 1991).

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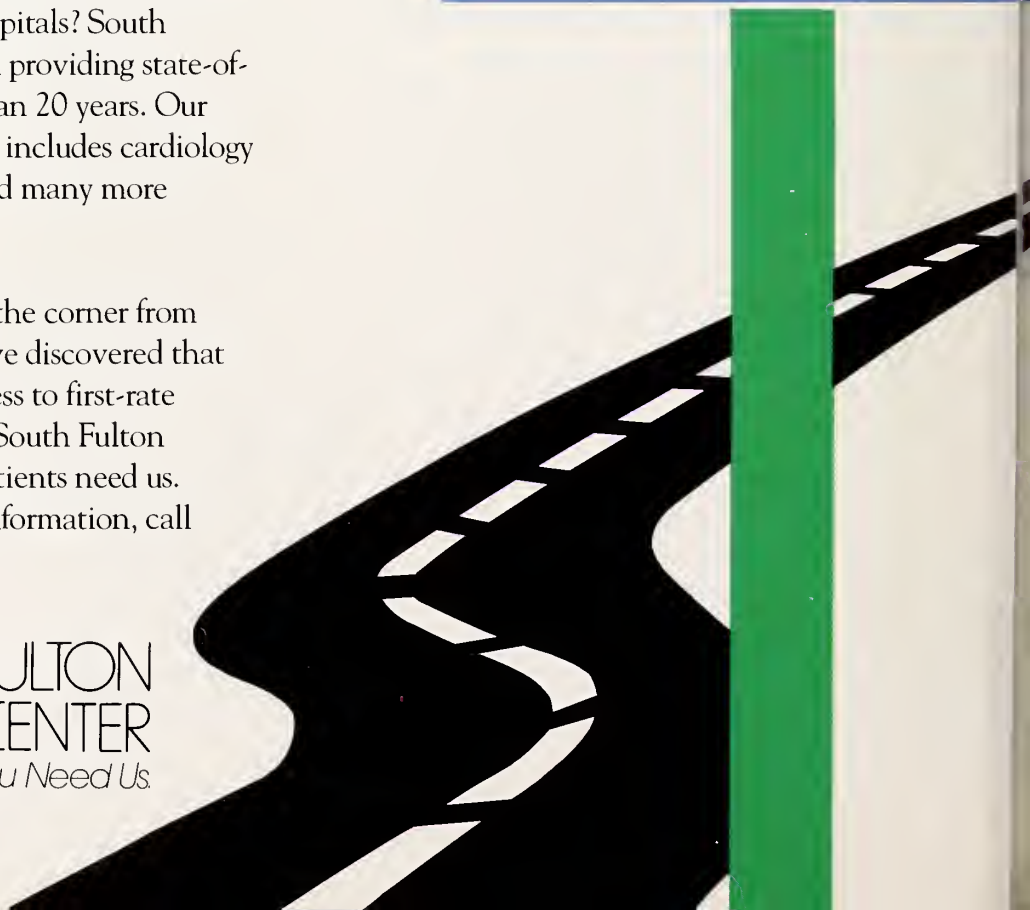
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THE COVER

A portion of the triptych, *Dr. Craver and Team*, from *The Heart* series of paintings by Georgia artist Lamar Dood.
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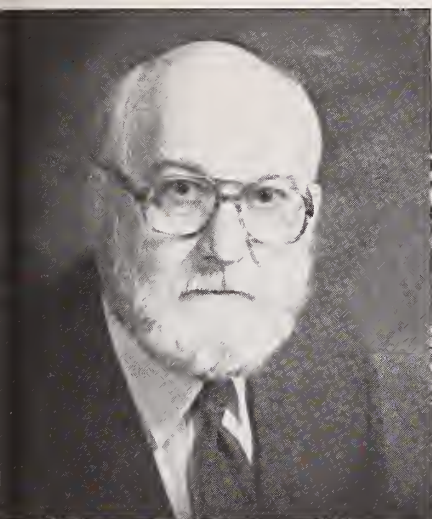


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Cyler Garner, M.D.

Legislative Activities of MAG

MAG MONITORS government activities and is forging alliances that will make us stronger when we speak. Lobbying has become a field where the best research on issues facing legislators is vitally important. To do that, we have added staff who know where to find data, how to interpret it, and how to present it. We are fortunate that we've found quality people to fill this need — and we've done it earlier than many organizations have been able to do. And this is only a small fraction of what we do. In this state, the MAG legislative team last year was able to:

- Get \$100,000 to start funding utilization review. This was done in an extremely tight budget year and was considered impossible by most people who knew the situation.
- Positively reform the language of the legislation that would have expanded CON to all physicians' offices. The changes substan-

tially diminished future incursion of CON regulation into outpatient surgery.

- Stop the bill that would have removed the floor for reimbursement differentials in PPOs. And, as a reminder, MAG was able to get the floor at 70 percent in the beginning.
- Stop the bill that would have allowed psychologists to admit, treat, and discharge involuntary patients while a psychiatrist, who would have had no oversight opportunity, would have had the legal responsibility for their actions.
- Got more than a \$1.5 million increase in Medicaid reimbursements for anesthesiologists, the first raise for that specialty in more than 5 years.
- Secured a \$2.1 million recoupment from Medicare after HCFA and the carrier decided physicians had "overcharged."

Your leadership provides excellent stewardship of your organization. We watch how your dollars are spent with a care that would do accountants proud. I think that the fact that the House of Delegates, when offered the same dues for reduced services or an increase to retain the same services, made the decision to increase dues, is a vote of confidence.

Some of *you* could do more, however. Have you asked a colleague to join lately? Ask again. Every physician who is not a member is getting a free ride off your dues dollars because we are working for all patients' care.

Cyler D Garner, M.D.

THE PERFECT FRUSTRATION

*If everything were perfect
Man still would have his doubt,
For he would have to worry
About nothing to worry about.*

LION TAMER

*The chair, the whip, the snarl, the roar,
The thrashing tails, the angry eyes,
Saliva dripping to the floor
From hungry mouths, as tempers rise.
A lightning flash, the current gone —
Now lights again in the arena —
A chair, a whip, each all alone.
Complacent cats lick forepaws cleaner.*

OPEN CITY

*Any city is open to howitzer shells!
No window, nor door that opens toward the
stars
Can ever be closed to bombs! No roof, no
bars,
Hold off a ton of T.N.T.! Man quells
The sound, but never the force, the fire that
beckons
A weight of woe spiraling from the sky!
No need to call it "open"; it's clear to the eye
That closure is for minds, for the mind reckons
That a city "open" is thereby safe, sprawling
In a hushed but lively happiness, relieved
At the terror turned away, the stars brightening.
But the heart has a sadness extending beyond
its calling,
And the mind a terror that mind itself con-
ceived,
As heart and mind await the final lightening!*

JOHN RANSOM LEWIS, M.D.

Dr. Lewis, a plastic surgeon in Atlanta, is Georgia's Poet Laureate.

Georgia Hospitals Incur \$100 Million Loss For Uncompensated Indigent Care

Georgia hospitals incurred losses exceeding \$97.5 million in 1989 to provide care to the medically indigent, according to a just published report on the state's indigent health care.

Commissioned by the Georgia Hospital Association (GHA) and the Georgia Alliance of Not-For-Profit Hospitals, the report disclosed hospital costs for indigent Georgians amounted to \$220 million in 1989. County reimbursement for indigent residents amounted to \$122 million — Fulton and DeKalb Counties contributing \$90.1 million of the \$122 million — with hospitals absorbing 44 percent of indigent care costs.

Compiled from the most recent information available through the State Health Planning Agency and county tax departments, the report showed that county spending for hospital care increased from \$94.8 million in 1986 to \$122 million in 1989. Additionally, only one-third, or 59, of Georgia's 159 counties reimbursed hospitals for the actual cost to provide indigent medical care.

Indigent care is defined as care provided to patients whose incomes fall below 125 percent of the federal poverty standard and who are not eligible or enrolled in the federal/state Medicaid program.

Hospital costs for charity care and bad debt — including losses from Medicaid and Medicare

reimbursement — are not included in the report. The report also does not account for county spending on medical care provided to the indigent by public health departments or other services.

"Uncompensated care is putting many hospitals at serious risk of closure or drastic reduction in services," Georgia Hospital Association President Joseph A. Parker said.

"If we are to ensure the viability of those hospitals that serve a disproportionate share of the medically indigent, community financial support must be increased to pay for health care services," Parker said. "Otherwise the availability of quality health care for all Georgians will be threatened."

The Georgia Hospital Association and the Association County Commissioners of Georgia backed efforts during the 1991 legislative session of the Georgia General Assembly to pass legislation requiring all counties to contribute to the cost of providing medical services to indigent residents, including hospital care.

In addition to the "indigent obligation" bill, Parker said both associations were in support of legislation to allow counties an alternate funding source to pay for indigent care.

"Before being required to take on new indigent health care obligations, counties should have the option of a broad based revenue source other than property tax," Parker said. "Unfortunately, efforts during the 1991 session to pass a county obligation bill and to find a new revenue source to pay for indigent care made little progress."

Counties that provided the highest rate of hospital support for indigent residents in 1989 were: Fulton County, \$69.8 million; DeKalb County, \$21.3 million; Richmond, \$4.4 million; Muscogee, \$4.3 million; Chatham, \$4.1 million; Bibb, \$4.0 million; Cobb, \$2.8 million; and, Gwinnett, \$2.0 million.

The indigent care report also showed that hospital costs for indigent Georgians averaged \$45 per capita, however Georgians average spending amounted to \$19 in reimbursement to hospitals for medical care.

County spending per capita varied widely with only 11 counties spending more than \$12. Fulton County residents contributed the most per capita at \$105.28 while 86 counties (54% of Georgia counties) spent no monies to support indigent care provided by hospitals.

[NOTE: At the time this report was compiled, the State Health Planning Agency did not have data on 14 counties. Therefore, the Draffin & Tucker summary and illustrations reflect \$0 of hospital support from those counties. Counties not included in the study are: Douglas; Jenkins; Meriwether; Greene; Murray; Gilmer; Pickens; Towns; Coffee; Ben Hill; Irwin; Jasper; Peach; and Washington.]

(Reported by the Georgia Hospital Association.)

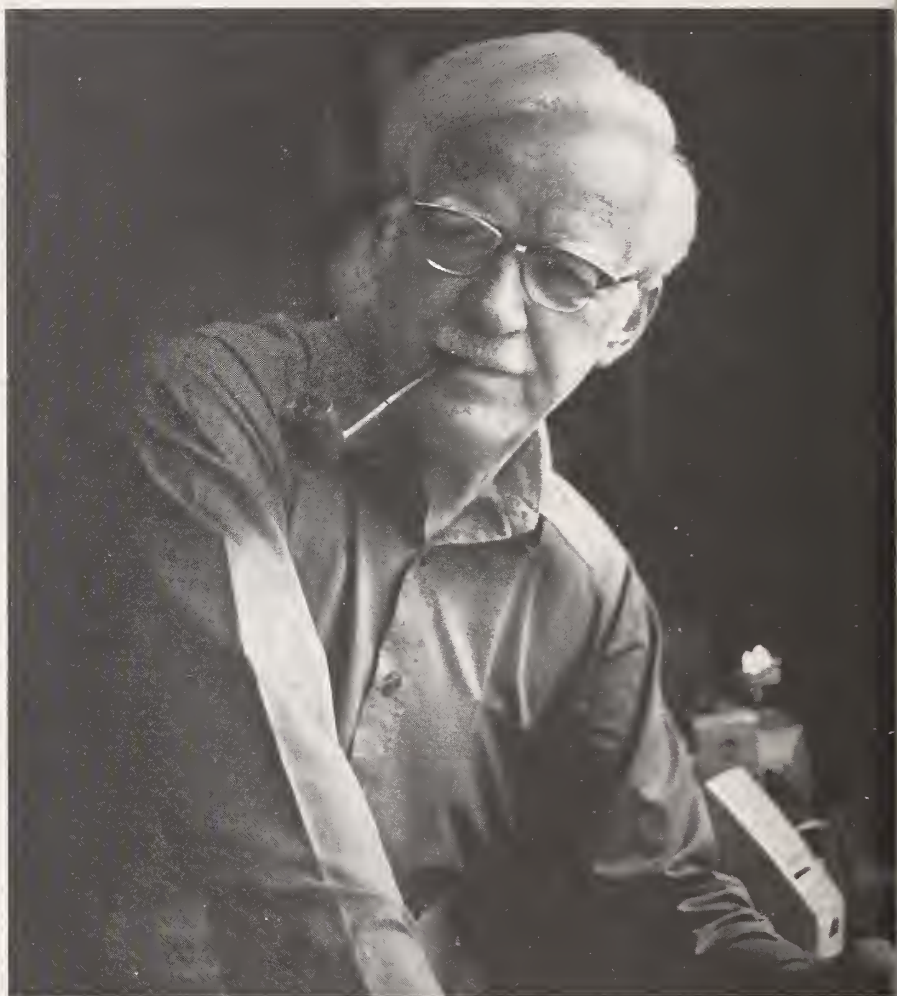
About the Cover Artist:

Lamar Dodd

“HE SEES SO MUCH” is an accurate description of the staggering breadth of this artist’s endeavors, interests and sympathies. In his life and in his work, Georgia’s Lamar Dodd exemplifies the sacred Zen concept of mindfulness. Or, as Gertrude Stein said of the creative life: “Everything must come into your scheme, otherwise you cannot achieve real simplicity.” Mr. Dodd achieves his “real simplicity” by cutting through obstacles as though they were butter.

Right from the beginning, he seems to have led a charmed life. He had his first one-man exhibition at the High Museum of Art in Atlanta when he was only twenty-two years old; and that same year, 1931, he had his first one-man show in New York City at a time when it was practically impossible for an American artist to have a 57th Street gallery. Through the years, Mr. Dodd continued to have exhibitions in New York and throughout the country, receiving a great deal of enthusiastic attention in the press, including a feature story in *Life*. His name and his work are well-known in the art community coast to coast. And so is Lamar Dodd in person. In fact, it sometimes seems as though every artist over the age of forty (and a good many under) has, at some time or other, met him personally. Mr. Dodd is remarkably ubiquitous.

For one thing, Mr. Dodd’s influence as a teacher has been extensive. Here, as in his painting career, he was successful from an early age. When he was twenty-eight years old, he was appointed to the faculty of The University of Georgia. The following year, he was made head of the Art Department, and then, with his amazing ability to cut through bureaucratic red tape, he proceeded to amplify and transform that department from a faculty of three to its present size, now approximately 60 members, making it, along the way, one of the better art departments in the country.



Official recognition also came as Mr. Dodd began to win all sorts of prizes, purchase awards, grants and government assignments. A grant of \$10,000 from the General Education Board of the Rockefeller Foundation in 1953 (when a dollar was still a dollar) enabled him to make his first trip to Europe where he spent one year covering some ten nations, seeing first-hand the art and architecture he knew by heart from his studies. Haunting museums and cathedrals tirelessly, he was never without his notebook and camera.

Mr. Dodd’s ability to fascinate and his gracious manner have made him an ideal “cultural ambassador” at home and abroad. He has thrown himself into this role with zest, lecturing throughout Europe and the USSR (exhibiting his work as he traveled from city to city). In this

country, he has served on committees for the Ford Foundation, the National Council of the Arts and Government, the International Cultural Exchange, the U.S. Advisory Committee on the Arts as well as many others.

Commenting on the *Heart* series from which the cover art of this issue derives, Dr. Joseph M. Crav wrote, “Nowhere else is there a artistic study on the subject of medicine which approaches the depth, accuracy or enlightened vision of this work by Lamar Dodd. . . Whether presenting the serenity of the intensive care patient, or the spiritual aura of the open-heart operation, or the symbolism in the sculptures surrounding the canvas Lamar Dodd has contributed a master study and lasting treasure for all.”

Of Vacations and of Leisure — A Continuum

Charles R. Underwood, M.D.

There is nothing worse for mortals than a wandering life."

HOMER: *Odyssey*, XV, C.800 B.C.

If an ass goes traveling he'll not come home a horse."

THOMAS FULLER: *Gnomologia*, 1732

Traveling makes men wiser, but less happy. When men of sober age travel, they gather knowledge which they may apply usefully for their country; but they are subject ever after to recollections mixed with regret; their affections are weakened by being extended over more objects; and they learn new habits which cannot be gratified when they return home."

THOMAS JEFFERSON:

LETTER TO PETER CARR, 1787

I should like to spend the whole of my life traveling, if I could anywhere borrow another life to spend at home."

WILLIAM HAZLITT: *Table Talk*, 1874

WE TOOK LEAVE of this Editor's Corner in the July issue of this *Journal* as your Editor and his traveling companion made preparations for a float trip, an adventure down the Snake River through Hell's Canyon, that stretch of northwestern American water. Perhaps continuity will be gained by referring to the last three paragraphs of the Editor's Corner in that issue. There one finds the following:

"Yet, we persevered. No snakes, no Sambos would deter us now. We were prepared for the Great American Outdoor Adventure. The polarlite outer garments and their accompanying outer-space-tested undergarments lie now along with the rain suits, the head gear, the waterproof camera container in orderly array upon the living room floor, awaiting proper placement in the weather repellent duffle bags. The occupants of such attire, yet unaccustomed to such finery, sit contemplatively in the library. I thought again of a cartoon from years past in the New Yorker. It depicted a young couple who had with gratuitous beneficence and generosity been given tickets to the championship football game sitting huddled in a driving snowstorm. One said to the other in the caption below, "Poor John and Linda. Sitting at home before a warm fire drinking mulled wine."

"Would it not be more practical, more reasonable and reliable to our age," my anxious and contemplative floating companion asked, "if we just suggested that we both suffer from seasickness and would be most appreciative of an invitation to the slide viewing party if they all return safely?"

We leave, take our departure from this civilized world, on the morrow. Our thoughts once again rebound from the concern over damage to a part of this organization which I see as a valuable and cohesive ve-

hicle, that is the Journal of the MAG, rebound from this to trembling anticipation of mauling from bears and bites from marmots. But we must be on our way and hastily. The water is rising on the Snake, and the rapids yet vent their fury upon the boulders. We shall surely return. It says such in the travel folder. And so for now must await the obituary to be published here next month. "Ah, sweet summer!"

And so it was that early of a Monday morning we placed our duffle bags, our survival gear, in the car and made our way to the airport, there to unite with our other white-water companions.

It was a varied group which gathered there in the airport terminal: the organizing Felder family, of course; a Medical School Dean and his lawyer wife; a hospital risk control expert, a lady at that; a retired 75-year-old internist and his pediatrician wife; an internist from a "name clinic" and his emergency room physician son; a retired surgeon with his wife; the CEO of a major third party payor, he of the infamous letter; the two of us; and the gregarious Sambo and his physician wife with two of their grandchildren, boys of that adventuresome and magical age just ahead of puberty striking the fires of desire.

It was then westward to Salt Lake and then to Boise and then by bus,

a Bluebird, manufactured in Perry, Georgia, to our resting spot for the night in Cambridge, Idaho. Here we found a real Main Street town, the Frontier Motel, and yet another arrangement of pink carnations for the highly placed CEO now bearing the affectionate note which even to one accustomed to crises brought shivers of anxiety, "Still missing you. Love, Bruce."

A night's sleep in the little motel, another 75-mile bus ride on the Bluebird, and we found ourselves deep in the upper reaches of the Rocky Mountains and at the top of Hell's Canyon on the Snake River. The next 4 days and 5 nights passed quickly as the large rafts took us down the river between massive canyon walls and through swirling rapids. Evenings brought an hour or so of convivial appetizing, listening to the master storyteller, and occasionally trying to compete with him. Then supper, darkness, and the tents.

Such days become as perhaps days were meant to be. Up at first light and to bed when light fades. So it was as we floated between mountains and through rapids, caught sight of bighorn sheep and eagles and otters, bounced from rafts into swirling rapids only to float through and be pulled to safety, talked endlessly of experiences and opinions provided by such a congeries of individuals while competing over drinks for best-teller-of-tall-tales.

We came at the terminus of our floating adventure to Lewiston, Washington, and Clarkston, Idaho, towns located across the river from

each other reminding us all of those earlier and hardier souls who had run these rivers with a bit less of a support team than had we. Dirty and odorous, some of us, for who cares to bathe in 60° water, but a bit more relaxed and surely happier. One final arrangement of pink carnations awaited the anxious CEO at this our last overnight motel for the trip. The accompanying card now read, "Thank God you are safe. Love, Bruce." He called home quickly advising the wife of the potential for one final reminder that the master of all practical jokes remained in control.

And so it is that the adventure ends and with it concludes another summer. Fall lies ahead of us and beyond that the winter. Time rushes by us all as we pass from season to season in a frantic effort to extract from our given days those pleasures which at the moment appear most seductive. Not so in years past when the travails of travel lent more allure to one's homeplace. I have in my acquaintance a nurse whose world is confined by her home and who is blessed by the driving compulsion and passion to spend yet one more night, weekend and vacation time in the confines of that geographically limited Heaven of garden and home and family. I know of yet another whose love of travel pulls her ever away from security of home. We are yet the products of all that has gone before. Of the genetical milieu over which we had no control nor were given any choice, of parents who took that mixture of ancestors and molded it, of we ourselves who

given some degree of freedom, of self will, must bear the responsibility of the culmination of all these various formative forces.

"How shall we spend our vacation this year?", we say to each other. "Shall it be Paris in the spring, London in the fog, Spain for the bullfights?" Was the Snake a 4-night stand interesting but fruitless or was it that type of vacation which brought with it not only simple pleasure and relaxation but the effervescent and energizing realignment of one's life? Vacations, and should investments, must present to us a guaranteed return of something.

There is a magic in our personal lives, or so it seems to me, unique to each of us which demands that should we find ourselves whole, complete, happy. We seek out that balance between work and play, between vacation at home and vacation at a distance, use of time. We must not be driven, perhaps not even influenced, by the travel brochures and surely not by what the neighbors did or where they went. Our vacation time, our leisure time, is far too precious to be left to such impractical unpredictables. These are things which must be studied and analyzed. They must possess purpose and that purpose for us all differs.

"Shall we do the Salmon River or the Grand Canyon next year?" I said to my yet drying out and hip sort of mate. "Check with me next week," she said.

Vae Victis

John E. Skandalakis, M.D., Ph.D., F.A.C.S.

WITH THE FORMATION of the American Association of Clinical Anatomists (AACA), a solid and much needed organization, the teacher of gross human anatomy found a home no longer surrounded by a gray mist, but by the appearance of the old anatomical sunshine full of light and hope. We are few now on the roster of the AACA, but we definitely form a Wellington "thin red line" which cannot be broken and which will help the queen of basic sciences, gross human anatomy, not to be a scurrying figure nor a disappearing dot on the road in the distance.

This is the road that led the way for the modern curriculum by the modern anatomist, to paraphrase Paul I. Wellman. Flogging and cruel treatment of the gross anatomist by the cell biologist is one of the reasons for the formation of the AACA. But, the real reason is the education of the student, the physician of tomorrow, who, for the name of God, must know some anatomy.

I would like to address this editorial as an open invitation to all heads of clinical departments, to responsible people who are in charge of the training of future specialists, but who participate little or not at all in the formation of the curriculum for the basic sciences.

If you read "The Report of the American Association of Anatomists to Revitalize Anatomy," you will be amazed with the philosophy and attitude of this once excellent

‘I would like to address this editorial as an open invitation to all heads of clinical departments, to responsible people who are in charge of the training of future specialists, but who participate little or not at all in the formation of the curriculum for the basic sciences.’

organization. As I stated in previous editorials,¹⁻⁶ there is no self-criticism in the report, only academic self-righteousness. For all practical purposes, the authors of the report think that gross human anatomy is dead, a rotten science. The time has come for me to borrow from Randolph of Roanoke's comments

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about Henry Clay: Anatomy is not a rotten mackerel which shines and stinks by the moonlight.

After this emotional prologue, I want to present the decalogue, a practical decalogue, to save anatomy and at the same time to educate medical students in such a way that the great beneficiary will be the patient. After all, the duty and responsibility of a medical school is to educate students to be good doctors and, of course, to perform research, but not to do only the second without the first.

These are my assertions:

1. Gross human anatomy should have a major role in the basic science education of the medical student.
2. The PhD candidate in anatomy must have a good course in gross anatomy and embryology.
3. The PhD teacher of gross anatomy should be clinically oriented.
4. Gross human anatomy should be taught twice a week for at least 6 months or four to five times a week for 3 months.
5. The format of teaching should be 1 hour of formal lecture, 2½ hours of laboratory dissection, and 30 minutes of audiovisual applications.
6. Embryogenesis and embryology of the abnormal should be part of teaching anatomy.
7. Clinical applications for both gross human anatomy and embryology is a must.

8. Practicing physicians (surgeons, radiologists, etc.) should participate in teaching anatomy. Clinicians must be the masters of the curriculum that is designed to make clinicians.

9. Without research we cannot survive. Both gross human anatomists and cell biologists should walk together with equal understanding and respect.

10. If peaceful coexistence is impossible, perhaps the best solution is the separation of gross human anatomy from today's department of anatomy and cell biology. The chairperson of such a department should be a clinically oriented MD or PhD.

And, it is time that the heads of the clinical departments who support the study of anatomy with words to support it with actions. Perspectives are changing as the pendulum slowly swings back to center, but we must act now to preserve the study of gross human anatomy. We cannot survive with the philosophical combination of Scarlett O'Hara and Annie. Scarlett stated, "I'll think about it tomorrow," and Annie said, "Tomorrow is always a day away."

Last year I had the honor and privilege to review for JAMA the new edition of *Gray's Anatomy* which presents *in toto* both organs and cells. A peaceful coexistence with the cell biologist is necessary, but if the cell biologist continues to dominate gross human anatomy and its teacher in this way and to treat him or her as a second-class citizen, then separation may be the only way out.

Anatomy is not yet shipwrecked. Anatomy will weather the storm. After all, we of the "thin red line" believe in what Oliver Wendell Holmes said:

I find the great thing in this world is not so much where we stand as in what direction we are moving. To reach the port of Heaven we must sail, sometimes with the wind and sometimes against it, but we must sail, not drift, not lie at anchor.

Vae Victis? Oh, no. There will be no woe to the vanquished, because there will be neither victors nor victims — only the scientist with one dream and one ideal, to help humankind understand this magnificent frame that our good Lord has wonderfully built.

‘We are few now on the roster of the AACA, but we definitely form a Wellington “thin red line” which cannot be broken and which will help the queen of basic sciences, gross human anatomy, not to be a scurrying figure nor a disappearing dot on the road in the distance.’

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The Incidence and Significance of the Posterior Gastric Artery in Human Anatomy

Andrew S. Berens, M.D., Frank V. Aluisio, M.D., Gene L. Colborn, Ph.D.,
Stephen W. Gray, Ph.D., John E. Skandalakis, M.D., Ph.D., F.A.C.S.

Introduction

ALTHOUGH THE POSTERIOR gastric artery was first identified by Walther¹ in 1729, named by Haller² in 1745, and described by many other European investigators, the description of this vessel was relatively absent from the English literature until Suzuki et al.³ in 1978 and DiDio et al.⁴ in 1980. These investigators were instrumental in the naming of the posterior gastric artery in the *Nomina anatomica* and in the recognition of its significance to the abdominal surgeon.

Since then, Wald and Polk⁵ have stressed the importance and frequency (88%) of the posterior gastric artery during operations for reflux esophagitis. Yu and Whang⁶ identified the artery in 84% of their population undergoing subtotal gastrectomy for distal gastric cancer. These authors emphasized its significance because of its "fre-

Abstract

This study examines the incidence of the posterior gastric artery in a series of 75 adult cadavers. We clearly identified the posterior gastric artery in 36 (48%) cadavers as a 1- to 2-mm vessel arising from the cranial border of the splenic artery within 3 cm of the celiac trunk and coursing dorsally to the posterior parietal peritoneum where it forms a fold before supplying the upper part of the posterior gastric wall. Identifying this vessel is difficult during surgery that compromises vascular tributaries of the stomach, and the obscure course and high incidence of this vessel necessitates awareness that, in a 75-85% gastrectomy, the short gastric artery or branches of the left gastric artery should be preserved since the posterior gastric artery will be sacrificed in 13% of these cases.

quency, obscure origin from the splenic artery, and deep course in the retroperitoneum," and they also stressed the importance of resecting the lymphatics that surround this vessel during a resection for proximal gastric cancer.

The incidence of the posterior gastric artery in the literature ranges from 4% to 99% (Table 1). These disparate findings are probably a reflection of the different methods of detection, the varying criteria that each study used to classify a vessel as the posterior gastric artery, as well as the anatomical diversity of the vessel being studied. In the first 29 cadavers of our own study, we found no posterior gastric artery and could have concluded, at that point, that its existence was a myth. In 36 of the remaining 46 cases the artery was found. (Perhaps our dissections were not perfect, but since the purpose of this paper is to remind

Dr. Berens is a general surgery resident at Tulane University in New Orleans, LA, and Dr. Aluisio is a general surgery resident at Duke University in Durham, NC; both were medical students at Emory University in Atlanta at the time of this study; Dr. Colborn is Professor and Director of the Center for Clinical Anatomy, Medical College of Georgia, Augusta; Dr. Gray is Emeritus Professor and Associate Director of the Thalia and Michael Carlos Center for Surgical Anatomy and Technique, Emory University, Atlanta; and Dr. Skandalakis is Chris Carlos Distinguished Professor and Director of the Thalia and Michael Carlos Center for Surgical Anatomy and Technique and the Alfred A. Davis Research Center for Surgical Anatomy and Technique, Emory University, Atlanta.

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surgeons only of the possible presence of the posterior gastric artery, we are not concerned that the initial dissections did not reveal the vessel.)

Some discrepancy also exists about the organs and regions supplied by the posterior gastric artery. DiDio et al.⁴ described the posterior gastric artery as supplying the superior portion of the stomach and the posterior wall of the esophagus, but not the spleen. In contrast, Trubel et al.⁷ emphasized the predominance of a "gastrosplenic artery" (45.2%) versus a posterior gastric artery (27.7%). These authors further divided the gastrosplenic artery into three categories based on whether the gastric branch was larger (10.3%), smaller (28.6%), or equal to (6.3%) the splenic branch. In another study, Trubel et al.⁸ found that "the PGA supplied a constant area in the posterior gastric body near the cardia and posterior fundus . . . [but that] . . . the abdominal esophagus was never supplied by the PGA," which is antipodal to DiDio's description above. Yu and Whang,⁶ utilizing methylene blue injections, found that both the posterior and anterior walls of the gastric walls were supplied, suggesting that the posterior gastric artery has connections with the whole intramural arterial network of the stom-

The course of the posterior gastric artery is an oblique one from the splenic artery dorsally to the parietal peritoneum of the omental bursa, where it raises a fold before supplying the posterior upper gastric wall.

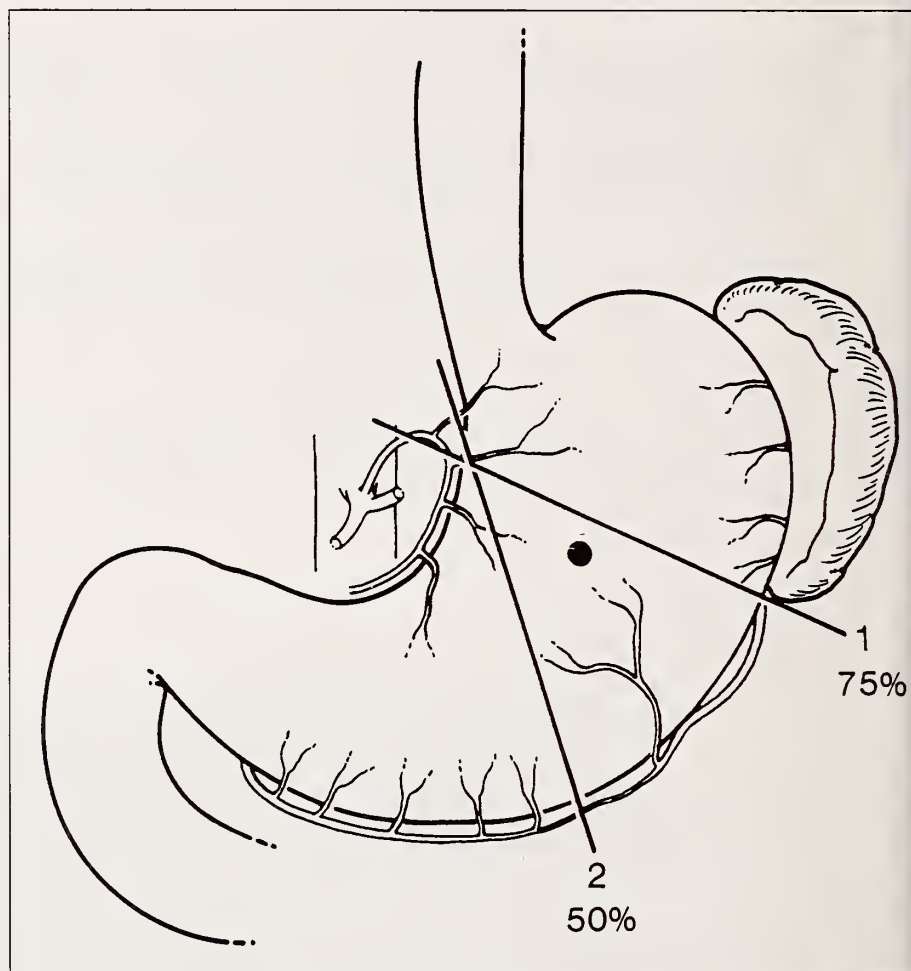


Fig. 1. Some arbitrary landmarks for a 75% resection and 50% resection of the stomach. Possible entrance location of the posterior gastric artery in 10% of cases.

ach, a finding that was much broader than suggested by other authors.

The course of the posterior gastric artery is an oblique one from the splenic artery dorsally to the parietal peritoneum of the omental bursa, where it raises a fold before supplying the posterior upper gastric wall. We agree, therefore, with the description of Suzuki et al.³ We included only those vessels that coursed to the posterior wall, and our findings do not include any vessels that had tributaries to the spleen.

Materials and Methods

We studied 75 formalin-preserved adult cadavers at the Emory University School of Medicine.

Those cadavers that had undergone abdominal operations that would have altered the results were excluded. Steps of the procedure were:

1. Removal of sternum and anterior chest wall.
2. Identification of celiac axis.
3. Careful, slow dissection of the splenic artery.
4. Exploration of the splenic branches, using a small curve hemostat.
5. Identification of all the branches of the splenic artery.
6. Isolation, study, and protection of any branch reaching the upper posterior gastric wall. All the branches of the splenic artery were systematically traced, and only those vessels that could be designated unequivocally as the

TABLE 1 — Reported Incidence of
Posterior Gastric Artery.

YEAR	AUTHORS	INCIDENCE	BREAKDOWN
1729	Walther [1]	N/A	N/A
1745	Haller [2]	N/A	Origin-Midportion
1796	Sommerring [20]	"Sometimes"	N/A
1873	Hyrtil [21]	"Inconsistent"	N/A
1901	Haberer [22]	"In Most Cases"	N/A
1904	Rossi and Cova [19]	65.8%	2.5 cm from celiac
1907	Leriche and Villemin [14]	12.7%	Origin-Distal
1910	Piquand [15]	99.0%	Origin-Distal
1912	Rio-Branco [11]	50.0%	Origin-Proximal
1915	Helm [12]	16.0%	Origin-Proximal
1928	Adachi [23]	21.6%	3-5 cm from celiac
1931	Testut and Letarjet [13]	N/A	N/A
1932	Versari [17]	66.0%	N/A
1952	Franchi and Stuart [24]	N/A	N/A
1955	Michels [25]	N/A	N/A
1957	Weisz and Bianco [10]	48.0%	N/A
1959	Chiarugi [18]	66.0%	2.5 cm from celiac
1962	Aboltin [26]	77.1%	N/A
1963	Tanigawa [16]	Adults 36.0% Fetuses 67.8%	2.2-13.1 cm from celiac axis
1963	Coinaud [27]	N/A	N/A
1967	Delteil et al. [28]	64.3%	N/A
1967	Kupic et al. [29]	36.8%	N/A
1968	Levasseur & Coinaud [9]	50.0%	N/A
1972	Laude et al. [30]	4.0%	N/A
1977	Ruzicka and Rankin [31]	N/A	N/A
1978	Suzuki et al. [3]	62.3%	18.4% Proximal Third 47.8% Middle Third 34.2% Distal Third
1980	DiDio et al. [4]	46.0%	N/A
1983	Wald and Polk [5]	88.0%	N/A
1985	Trubel et al. [8]	37.5%	33% had splenic branch
1986	Vandamme and Bonte [32-33]	36%	N/A
1988	Trubel et al. [7]	72.9%	PGA only 27.7% GSA 45.2%
1990	Yu et al. [6]	84.0%	13% Proximal Third 78% Middle Third 9% Distal Third
1990	Kaneko [34]	Fetuses-16.0%	N/A
1991	Berens	48%	Proximal Third (3 cm)

posterior gastric artery were counted as such.

Topographicoanatomically, the posterior gastric artery always reached the upper posterior wall of the stomach within the vicinity of the proximal gastric unit. With a 50% gastrectomy, the artery is saved. With a 75% gastrectomy, only 10 cases (13%) were found distal to the arbitrary line (Figure 1). Therefore, in this situation, the short gastrics and perhaps branches of the left gastric or the left gastric itself should be preserved.

Results

The posterior gastric artery was identified in 36 of the 75 cadavers (48%). In all of these cases, the posterior gastric artery arose within 3 cm of the celiac axis, coursed obliquely and dorsally to the left and raised a fold of the posterior peritoneum before joining the posterior gastric wall near the cardia and the fundus. In 39 of the cases (52%), we were unable to classify unequivocally a vessel as the posterior gastric artery.

Discussion

The incidence of the posterior gastric artery has varied in the literature, as discussed previously. The results of our study show the incidence to be 48%, which coincides most closely with Didio et al.,⁴ Levasseur and Coinaud,⁹ Weisz and Bianco,¹⁰ and Rio-Branco.¹¹ Since we were conservative in our classification of a vessel as the posterior gastric artery, our findings demonstrate that this vessel is present in at least 48% of individuals.

Several authors include a breakdown of the origin of the posterior gastric artery, designating it as proximal,¹⁰⁻¹³ midportion,² or distal.^{14, 15} Our study demonstrates that the posterior gastric artery originated from the proximal splenic artery as suggested by Helm,¹² Rio-Branco,¹¹ Testut et al.,¹³ Tanigawa,¹⁶ Versari,¹⁷ Chiarugi,¹⁸ and Rossi and

Cova.¹⁹ Chiarugi and Rossi and Cova measured the distance to be within 2.5 cm, very close to our measurement of 3 cm.

Summary

The high incidence and obscure course of the posterior gastric artery necessitate its recognition during abdominal surgery. Even though it is a small vessel, inadvertent transection during a gastrectomy, a pancreaticoduodenectomy, trans-abdominal surgery for reflux esophagitis, or a parietal cell vagotomy may result in iatrogenic hemorrhage or necrosis of the stump.³⁻⁶ Furthermore, the lymphatics that surround this vessel should be identified during resection for gastric cancer.

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Examination of Collateral Flow and Anomalies of the Left Renal Vein with Clinical Correlations

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Abstract

The anatomy of the left renal vein, especially knowledge of collateral flow, is extremely important to the modern surgeon, since division of the left renal vein is common to many procedures. This study examines the left renal venous drainage system in 20 human cadavers for evidence of collateral flow and anomalies. Ten cadavers underwent dissection of the tissues surrounding the left renal vein, except for the left suprarenal and left gonadal veins, and 10 did not. Water and methylene blue were injected into the left renal vein to check for extravasation, and the veins were subsequently divided. There was no evidence of additional tributaries off the left renal vein as no extravasation occurred, and opening of the left gonadal and left suprarenal veins did not reveal any direct connections to the inferior vena cava. Thus, this experiment did not demonstrate evidence of a systemic collateral flow system draining the left kidney once the left renal vein was divided.

Anomalies of the left renal venous drainage system occurred in six of 20 (30%) of cadavers, with one anomaly of the left renal vein itself (5%) manifested as a supernumerary left renal vein. The other anomalies included bifurcation of the gonadal vein, bifurcation of the suprarenal vein, the inferior phrenic vein draining into the left renal vein distal to the superior mesenteric artery, and the presence of a lumbar vein draining into the left renal vein in two cadavers. The lumbar veins may perhaps represent a normal variant.

Introduction

THE LEFT RENAL VEIN represents an important anatomic structure in many operations, especially those involving retroperitoneal tumor removal, splenorenal shunts, nephrectomy, and abdominal aortic surgery. The anatomy of this vein, with respect to its tributaries and anomalies, remains unclear despite numerous studies attempting to describe it. The surgeon must understand this anatomy in order to avoid untoward complications

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from injuring this vessel.

The most common tributaries of the left renal vein include the left suprarenal (adrenal) vein on the superior surface and the left gonadal vein on the inferior surface. The inferior phrenic vein commonly drains into the left suprarenal vein. These tributaries are believed to serve as collaterals to drain the left kidney in instances where the left renal vein is surgically obliterated. Other tributaries described include a renal-lumbar-hemiazygous system and lumbar veins.¹

Dividing the left renal vein does represent a clinical dilemma, since collateral flow has not been definitely proven.

Monkhouse and Khalique¹ dissected 57 cadavers and found that 42 had connections between the posterior surface of the left renal vein and lumbar veins leading to the hemiazygos vein or direct connections of the left renal vein to the hemiazygos vein itself. This present study will attempt to demonstrate the existence of all tributaries about the left renal vein in 20 cadavers to help discover more about collateral flow.

In addition to examining tributaries, this study will also attempt to uncover anomalies of the left renal vein. The most commonly described anomalies of the left renal vein are a circumaortic venous ring and a retroaortic left renal vein. In 120 cadaver dissections, Srinivasan² discovered an anomalous left renal vein in 11.6%, with a circumaortic venous ring present in 8.3% of the cases, retroaortic left renal vein in 2.5%, and double inferior vena cava in 0.8%. Baldrige and Canos³ reported an incidence of persistent circumaortic venous ring ranging from 1.5% to 8.7% and of retroaortic left renal vein in approximately 2% of clinical and anatomic studies. Other anomalies encountered in anatomical reviews include accessory left renal veins.¹ If not recognized, these anomalies can cause serious complications in operations involving the left renal vein.

Besides avoiding complications, knowledge of anatomy of the left renal vein plays a clinically significant role in operations requiring division of the vein. In order to prevent renal complications, proof of collateral flow, usually performed

by measuring left renal vein stump pressure, is essential before dividing the left renal vein. Numerous studies have examined division of the left renal vein and subsequent outcome in relation to kidney function, with data both supporting and opposing this procedure.

Studies performed by Dearing et al.,⁴ Calligaro et al.,⁵ and Neal and Shearburn⁶ on patients who underwent division of the left renal vein in abdominal aortic surgery did not reveal any statistically significant impairments of renal function as a result of this procedure. In these studies, the left renal vein was divided close to its attachment with the inferior vena cava. These studies suggest proof of collateral flow draining the left kidney after division of the left renal vein.

Studies performed by Rastad et al.⁷ and Huber et al.⁸ on similar patients undergoing left renal vein division in abdominal aortic surgery, found statistically significant increases in serum creatinine in these patients compared to those who did not undergo left renal vein division. These results were significant both immediately postoperatively and sustained, and for both elective and emergency abdominal aortic aneurysm repair. While Huber et al.⁸ did not report an increase in renal failure in left renal vein divided patients compared to left renal vein intact patients, Rastad et al.⁷ reported an increase in permanent renal damage (failure, nephrectomy, infarction) in their experimental group compared to controls. These two studies suggest that collateral flow may not be sufficient after the left renal vein is ligated.

Materials and Methods

Though the purpose of this paper is not to discuss the surgical anatomy of the inferior vena cava, a brief presentation is warranted since the left renal vein is part of the inferior

vena cava system. The inferior vena cava, in its upward course, receives blood from three sources: the lumbar veins from the body wall, the veins of the three paired glands (gonads, kidneys, and adrenals), and the hepatic and inferior phrenic veins.

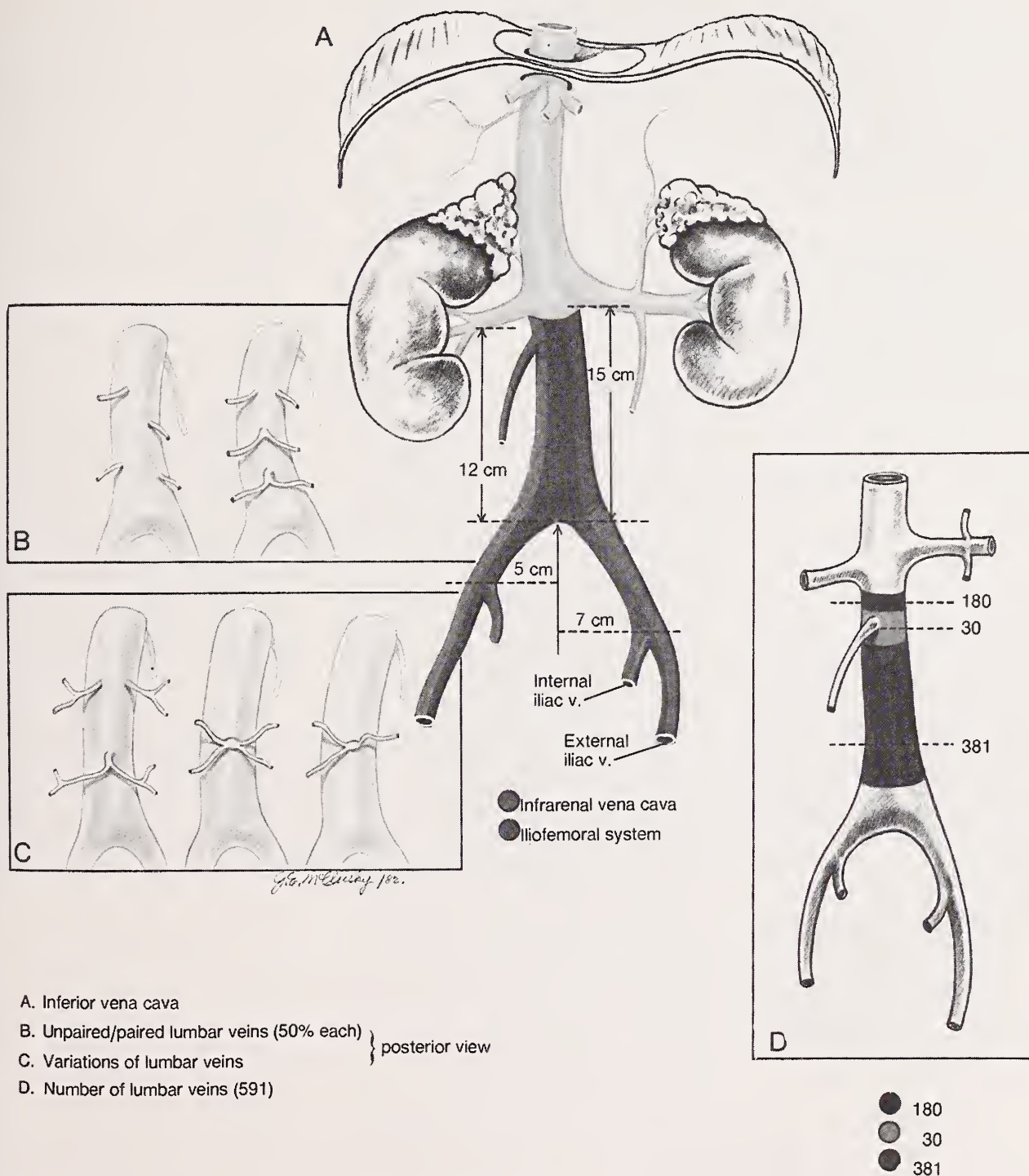
Twenty cadavers, divided into two groups of 10, were dissected in this study. In Group One, the left renal vein was isolated by placing a clamp at the inferior vena cava above and below the renal veins, and also on the right renal vein, close to the inferior vena cava right lateral wall. After isolation, all tissues surrounding the left renal vein were cut except for the left suprarenal (adrenal) vein and the left gonadal vein. Water and methylene blue were then injected into the left renal vein until the vein became tense to palpation. At that point, the veins were checked for extravasation. The left renal vein, left suprarenal, and left gonadal veins were subsequently opened via a longitudinal slit and were examined further for tributaries.

In Group Two, the left renal vein was isolated in similar fashion as in Group One; however, no dissection was performed around the left renal vein, unlike for Group One. This group thus served as a control group, since any small tributaries cut in Group One cadavers would be present and spared in Group Two cadavers. Injection of water and methylene blue, along with opening of the left renal, suprarenal, and gonadal veins, was performed in similar fashion to Group One.

All 20 cadavers were also closely examined for anomalies of the left renal venous drainage system and the left renal vein itself.

Results

The 10 cadavers in Group One, all of which had dissection of all the tissues surrounding the left renal vein except for the left suprarenal and left gonadal, did not reveal any extravasation of water or methylene



blue after injection of these materials, indicating that no tributaries were cut in dissection of the tissues surrounding the left renal vein. Opening the veins also did not reveal any additional tributaries from the inferior vena cava to the left su-

prarenal or left gonadal veins.

The 10 cadavers in Group Two, which did not undergo dissection of the tissues surrounding the left renal vein, also did not reveal any extravasation of water or methylene blue after injection of these mate-

rials, as expected. In three cadavers, there was an additional tributary which filled with injection of these materials. In two cases, it arose off the posterior surface of the left renal vein, most likely representing a lumbar vein, and in the

third it arose off the superior surface and appeared to mark the inferior phrenic vein. Except for those just described, opening the veins also did not reveal any additional tributaries from the left renal vein or any tributaries from the inferior vena cava to the left suprarenal or gonadal veins.

If the presence of lumbar veins connected to the left renal vein is considered a normal variant, then the incidence of anomalies is 20%.

Anomalies of the left renal venous drainage system occurred in six of 20 (30%) cadavers with only one anomaly of the left renal vein itself (5%). Dissection of the left renal vein in that cadaver revealed an accessory left renal vein. A bifurcation of the gonadal vein was found in two cadavers. In one case, the inferior phrenic vein entered directly into the left renal vein distal to the superior mesenteric artery. The presence of the lumbar veins in two cases representing anomalies 5 and 6, may perhaps represent a normal variant, since they had an incidence of 10% and have been described elsewhere.¹

Discussion

Left renal vein tributaries.

Examination of the left renal vein in 20 cadavers revealed additional tributaries, besides the left suprarenal and left gonadal veins, in three cadavers (15%). There was no difference in extravasation of fluids between Group One (experimental group dissected around the vein) and Group Two (control group not dissected around the vein); there-

fore, there were no small tributaries destroyed during dissection around the left renal vein.

Opening of the veins in both groups did not reveal additional tributaries from the left renal vein except in three cases (two lumbar, one inferior phrenic). Perhaps more importantly, no connections were discovered between the inferior vena cava and the left suprarenal or gonadal veins. These veins must, therefore, have alternate collateral pathways draining the left kidney once the left renal vein is divided from the inferior vena cava, since collateral flow has been clinically implied. The two cadavers with lumbar veins draining the left renal vein would have systemic collateral flow, since the first and second lumbar also drain into the hemiazygos vein.

This experiment, thus, did not demonstrate collateral flow beyond the left gonadal and left suprarenal veins into the inferior vena cava. Clinical studies, however, have indirectly proven collateral flow once the left renal vein is divided, since patients undergoing this maneuver did not experience renal damage or failure.^{4,6} Perhaps the left suprarenal and gonadal veins drain directly or indirectly into the hemiazygos or drain indirectly into the inferior vena cava (besides through the left renal vein), since no direct connections to the inferior vena cava were found. This experiment would not demonstrate these alternate collateral channels, since clamps were placed above and below the left renal vein, thus blocking the flow of water and methylene blue.

Rastad et al.⁷ and Huber et al.⁸ indirectly demonstrated that left renal vein collateral flow is often insufficient after division of the vein, which is clinically consistent with the data found in this experiment.

Dividing the left renal vein does represent a clinical dilemma, since collateral flow has not been defin-

itively proven. McCombs and De-Laurentis⁹ have a clinically relevant solution, measuring left renal vein stump pressure after clamping the left renal vein, with subsequent division of the left renal vein in all cases with stump pressure less than 60 on H₂O. They, along with Calligaro et al.,⁵ have had low complication rates using this method. AbuRahma et al.¹⁰ reported that ligation of the left renal vein increases the risk of postoperative renal complications, and its use should be selective.

Left renal vein anomalies.

This study found anomalies in six of 20 (30%) cadavers, with only one anomaly of the left renal vein proper (5%), manifested as an accessory left renal vein. If the presence of lumbar veins connected to the left renal vein is considered a normal variant, then the incidence of anomalies is 20%. Srinivasan² found an 11.6% incidence of anomalies in the left renal vein itself, thus slightly higher than the incidence found in the series (5%). The most common anomalies, circumaortic renal collar and retroaortic left renal vein, were not found in this study. The incidence of accessory left renal vein (5%) is higher than that found in previous studies (1%).¹

After dissecting 132 cadavers, Gray and Skandalakis¹¹ discovered congenital anomalies and multiple variations as follows: a right inferior phrenic vein entering the inferior vena cava; a left inferior vein entering the inferior vena cava, the left adrenal vein, or both; two cases of double inferior vena cava (all lumbar veins drained to the right vessel), and one case of left-sided vena cava; a right gonadal vein entering the inferior vena cava approximately 2 cm below the insertion of the right renal vein; all lumbar veins entering the inferior vena cava posteriorly, never laterally or anteriorly, in all cadavers. In 50% of the latter situation, the veins are paired; 50%

are unpaired. In 25% of these cases, the paired lumbar veins form a common trunk before entering the posterior side of the inferior vena cava (Figure 1). The number of lumbar veins and areas of insertion are clearly illustrated by part D of Figure 1.

According to Bergman et al.,¹² the left renal vein may be multiple (1%), may have one or two accessors (9%), may be retroaortic or circum-aortic (2%), or may anastomose with the splenic vein and receive lumbar veins. They also report that the suprarenal vein may drain into the inferior phrenic, and it may receive a gonadal vein. The gonadal vein may be represented by several vessels or may form a plexus, and it may receive a duodenal or a suprarenal vein. They report both spermatic veins draining into a left renal vein, and, in a case of doubled inferior vena cava, a left ovarian vein drained into the left inferior vena cava.

As previously mentioned, these venous anomalies play a clinically important role in that their recognition may prevent untoward complications. A retroaortic left renal vein is perhaps the most dangerous. Brenner et al.¹³ reported severe

Besides avoiding complications, knowledge of anatomy of the left renal vein plays a clinically significant role in operations requiring division of the vein.

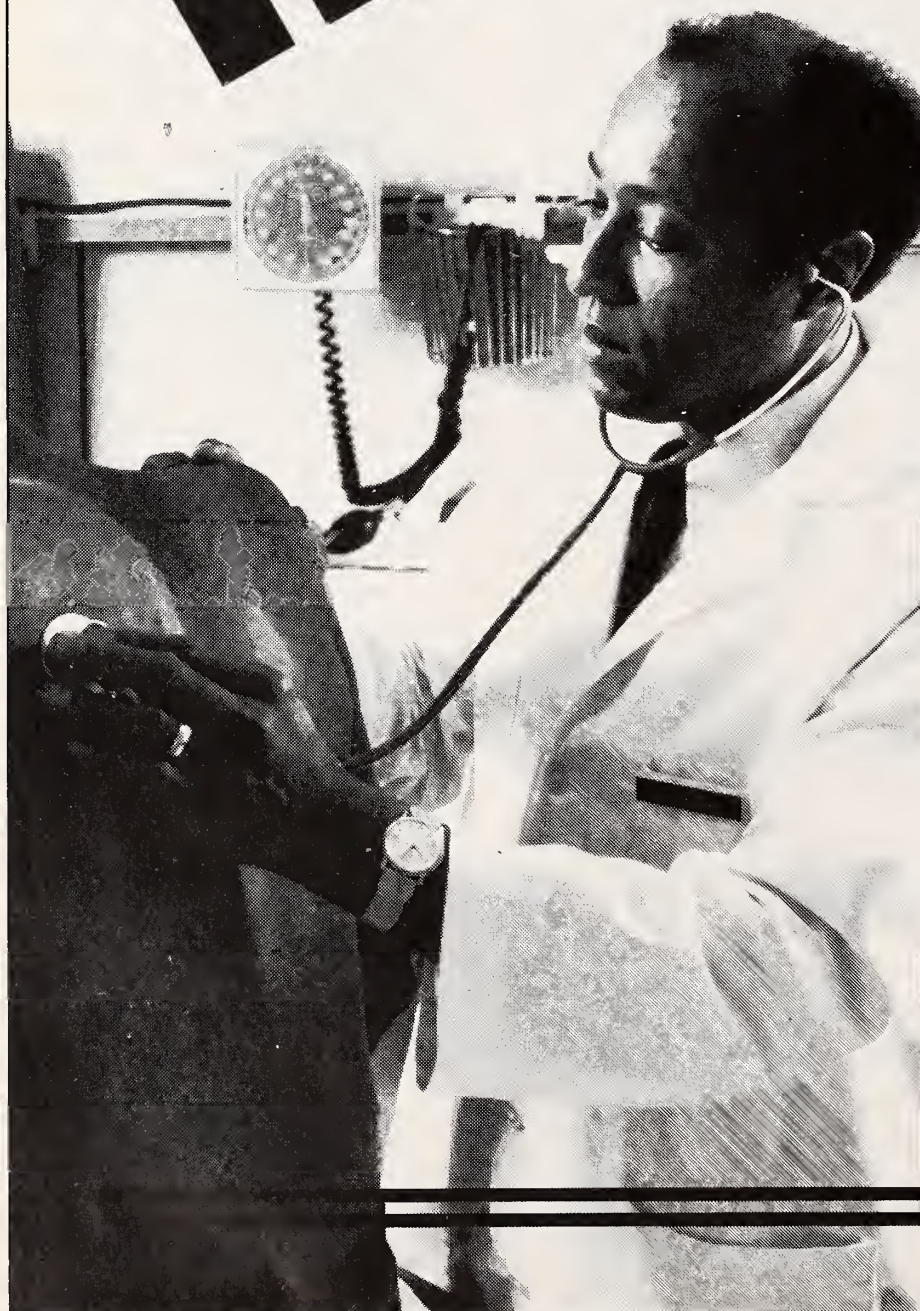
hemorrhage in 10 of 22 patients with a retroaortic left renal vein, two required nephrectomy, and two died directly from the bleeding. A circum-aortic venous ring is dangerous because the retroaortic component may not be visualized and, thus, may be easily overlooked and injured. An accessory left renal vein can pose the same problem.

Although this study demonstrated a low incidence (5%) of left renal vein anomalies, one must be aware that they do exist, and even with an incidence of 5%, they may commonly be seen in busy surgical centers. Knowledge of these anomalies may help prevent surgical complications.

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Cardiac Angiosarcoma: A Case Report

Bobby C. Brown, M.D., Thomas E. Mason, M.D., W. Perry Ballard, M.D.,
Charles W. Wickliffe, M.D., David Bone, M.D.

Case Report

A 44-YEAR-OLD white man experienced a bout of severe angina in May, 1990, that required hospitalization. His risk factors for coronary artery disease included hypertension and a positive family history for heart disease, as his mother died of coronary artery disease. On admission, neither EKG abnormalities nor a CK elevation was identified. The patient had experienced a similar episode approximately 1 month prior to admission.

The patient was subsequently admitted to Piedmont Hospital in Atlanta for emergency coronary artery catheterization. He was hypertensive, with a blood pressure of 164/110, and complained of chest pain. Serial electrocardiograms were normal. CPK isoenzymes were normal.

The catheterization procedure revealed a totally obstructed mid right coronary artery with a 75% oc-

Abstract

Primary neoplasms of the heart are rare and difficult to diagnose prior to surgery, even with modern imaging techniques. Often, the tumors are diagnosed only at autopsy. Angiosarcoma is the most common malignant neoplasm. This disease is most commonly found in middle-aged men, and the tumor is most often located in the right atrium. It commonly causes blood flow abnormalities, extensively infiltrates cardiac structures, and may extend through the heart wall to involve adjacent structures. Metastatic spread at the time of diagnosis is common, and surgical mortality is high.

We present a case of primary angiosarcoma involving the right ventricle of the heart. This tumor developed 6 months after the patient had undergone coronary artery bypass surgery. The patient was initially thought to have a massive thrombus within the right ventricle but at surgery was found to have a malignant neoplasm invading the myocardium. Subsequently, he was found to have pulmonary metastases. A debulking procedure was performed, and the patient was started on chemotherapy. Rather prompt improvement occurred after the debulking procedure, but subsequent studies have indicated progression of the pulmonary metastases despite ongoing chemotherapy.

onary bypass surgery was subsequently performed. A hemorrhagic infarction of the left ventricle was noted during surgery. The patient underwent two bypass grafts with one placed into the left diagonal vessel and one into the right coronary artery. Postoperatively, he did well. He was discharged on the 7th postoperative day.

clusion of the diagonal branch of the left anterior descending artery. Following the catheterization, acute inferior segment elevation was noted on the EKG. Angioplasty was unsuccessfully attempted, and cor-

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In the 5 months between bypass surgery and readmission to Piedmont in January, 1991, the patient made slow but steady progress with improvement in his exercise tolerance. Approximately 1 month prior to admission, he noticed feelings of bloating after eating, and shortly before admission he complained of pain in the anterior chest with radiation of the pain to his back and left shoulder. He again underwent left heart catheterization. His bypass grafts were patent. An echocardiogram revealed a large intra-

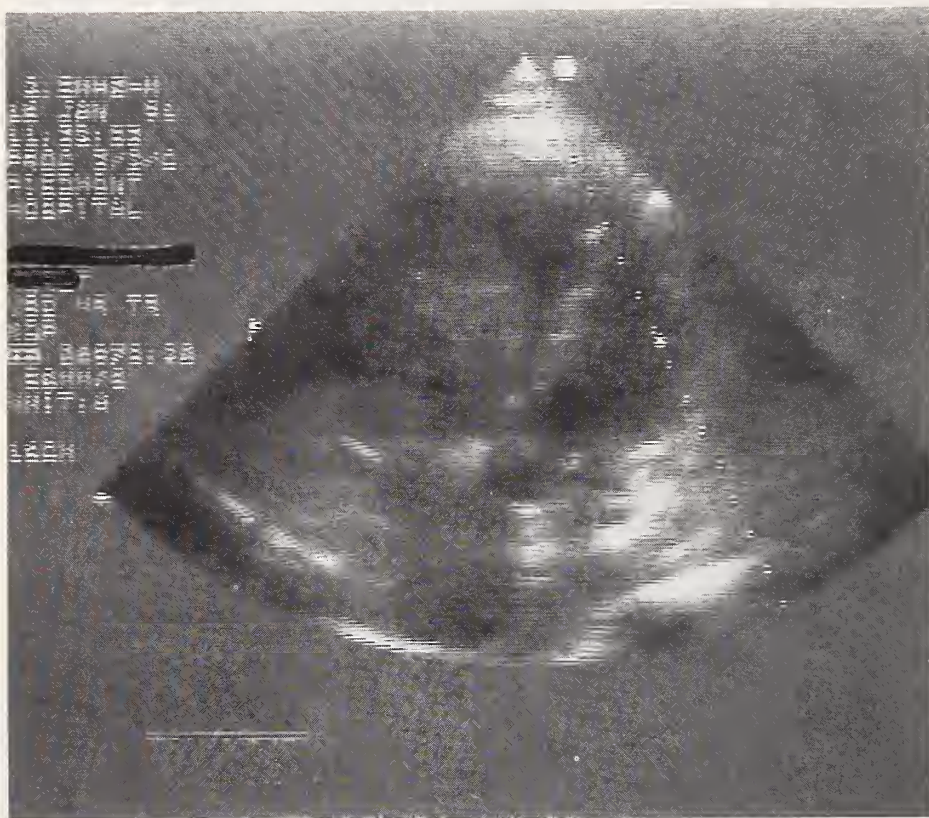


Figure 1. Two-dimensional echocardiogram showing right and left ventricles, interventricular septum, and mass within the right ventricular cavity.

cardiac mass which almost obliterated the right ventricular cavity (Figure 1). Because of compromised hemodynamic function, it was decided the mass should be removed.

During surgical exploration, the right ventricular cavity was discovered to be filled with a gray friable neoplastic mass. A frozen section of the mass revealed sarcoma. The tumor mass was partially removed including that from around the tricuspid valve and the pulmonary outflow tract. The patient tolerated this procedure reasonably well and made an uneventful recovery except for an episode of severe swelling and pain in the right leg believed to be secondary to deep vein thrombosis. Postoperative thoracic CT scan revealed multiple nodules in the lung. He was discharged 14 days postoperatively.

The patient was initially treated

with doxorubicin and dacarbazine, but restaging workup revealed progressive metastatic disease in the lung, and echocardiogram showed partial regrowth of the neoplasm within the heart. He was subsequently admitted in April and May of 1991 for ifosfamide therapy. In May, the patient was found to have a large left pleural effusion which was tapped for symptomatic relief. A malignant neoplasm was not identified in the effusion.

At the present time, the neoplasm continues to increase in size and in the number of pulmonary metastases.

Discussion

Neoplasms involving the heart are fortunately very uncommon, and primary neoplasms of the heart are particularly rare. Recent reviews of this neoplastic problem have been published.^{1,2} According to Mc-

Allister,³ primary tumors of the heart are intracavitary, are benign approximately 75% of the time, and occur with a frequency of 0.00 to 0.28%. The most common neoplastic problems are those involving the pericardium and epicardium secondary to lung or breast carcinoma. These patients experience pericardial effusions and, on occasion, cardiac tamponade or secondary pericarditis. High grade neoplasms also occasionally metastasize directly to myocardium, particularly in immunosuppressed people. If medical history is known, these patients usually do not present diagnostic problems.

Primary neoplasms of the heart are rare and frequently produce problems in diagnosis. The heart is a very complex anatomical and physiological organ that contains a variety of tissue types. Consequently, a large variety of primary tumors, both benign and malignant, may occur.

In descending order of frequency, the following benign neoplasms may occur: myxoma, lipoma, fibroelastoma, rhabdomyoma, fibroma, hemangioma, teratoma, mesothelioma, granular cell tumor, neurofibroma, and lymphangioma. The best known is the myxoma which accounts for more than half of all the benign primary neoplasms of the heart and for approximately one-fourth of all tumors of any type. The fibroma and fibroelastoma are primarily pediatric cardiology problems, whereas the remainder are largely seen in adults. Recently, Rees et al.⁴ discussed intracardiac masses in infants and children presenting with cases diagnosed by two-dimensional echocardiography.

Most of these benign neoplasms have their malignant neoplastic counterparts, though the order of frequency is somewhat different. In descending order of frequency, possible malignant neoplasms are

angiosarcoma, rhabdomyosarcoma, mesothelioma, fibrosarcoma, malignant lymphoma, extraskelatal osteosarcoma, neurogenic sarcoma, teratoma, leiomyosarcoma, liposarcoma, and synovial sarcoma. Many of these neoplasms are so rare that they are represented only by individual case reports.

This case of angiosarcoma of the heart largely reflects a pattern well documented in medical literature; however, it is unusual in that previous recent surgery preceded the development of the malignant tumor by only a few months. While angiosarcoma is the most common of the malignant primary tumors of the heart, fewer than 150 cases have been documented in the world literature.⁵

Patients with angiosarcomas of the heart usually present with clinical findings of congestive heart failure. In addition, they may complain of pleuritic chest pain, dyspnea, and fever. Other findings include pericardial effusions, systolic murmurs, anginal type chest pain, weight loss, malaise, cardiac arrhythmias, unexplained pulmonary emboli, and sudden unexpected death. These patients have a mean age of 40-45 years with a range of 10-76 years. Males outnumber females by a ratio of 3:1. The right side of the heart is predominately involved, with the right atrium being the predominant chamber involved in approximately three-fourths of the cases.

The next most commonly involved chamber is the right ventricle, involved in 5-6% of cases. Two-thirds or more of the cases have metastatic disease at the time of diagnosis, with the lung being the most common site of the metastasis. Other sites included liver, lymph node, bone, central nervous system, and spleen. This pattern largely reflects a hematogenous pattern of spread.

Because of the rarity of this neo-

plasm, diagnosis prior to surgery was almost never made in the era antedating imaging studies.^{1,2} In one study,¹ a number of patients were diagnosed antemortem, and operative intervention resulted in one patient surviving 36 months.

The patient was initially treated with doxorubicin and dacarbazine, but restaging workup revealed progressive metastatic disease in the lung, and echocardiogram showed partial regrowth of the neoplasm within the heart.

Despite improvement in antemortem diagnosis and increasing potential for surgical intervention, prognosis for this lesion is dismal with early death from complications of the primary tumor or metastases.

The hemodynamic status of the current patient was improved by debulking the tumor and improving blood flow. A portion of this tumor was free-floating. This feature was appreciated on the echocardiogram with definite movement of the tumor mass with some tendency to reflux through the tricuspid valve. Occasionally, tumors largely free within the ventricular or atrial cavity or attached to the wall by a fine pedicle have been reported. In these patients, surgical intervention should prove to be beneficial. Most of the tumors, however, have a devastatingly infiltrative growth pattern, and an occasional case has produced cardiac wall rupture with hemopericardium and cardiac tamponade.^{6,7} Many of the angiosar-



Figure 2. CT scan of chest showing bilateral metastatic tumor nodules.

comas are initially thought to be atrial myxomas with the true nature of the neoplasms only being established at the time of surgery.⁸

Examined grossly, these tumors are gray and friable with a definite infiltrative growth pattern into the myocardial musculature. They are virtually impossible to remove totally, and surgery is largely a debulking procedure.

Microscopically, the tumor is comprised of interlacing bundles of malignant spindle cells. The application of immunochemical techniques permits a more precise classification of these neoplasms. In our case, both vimentin and factor VIII were weakly positive; expected reactions with this neoplasms. The leukocyte common antigen, cyto-keratin, and desmin reaction were all negative.

Why is the heart so rarely a primary or a metastatic site? (A similar

Is it not amazing that an organ that circulates so much blood does not acquire cancerous cells more often?

situation exists with the spleen⁹ and striated and unstriated muscle masses.) When the body is at rest, the heart pumps 4-6 liters of blood each minute, and, during strenuous exercise, it may pump four to seven times as much.¹⁰ Knowing this, is it not amazing that an organ that circulates so much blood does not acquire cancerous cells more often? Why are malignancies of the hepatic parenchyma and lung common and those of the heart so rare? Answers to these questions only lie in future research.

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The History of the Small Bowel

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THE HISTORY of the small bowel focuses on treating two pathologic processes: intestinal injury as a result of penetrating abdominal trauma and intestinal obstruction. Both the former, commonly encountered on the battlefield, and the latter, possibly caused by congenital anomalies, concretions, foreign bodies, intussusception, or hernia, carried a grave prognosis, despite even the most heroic curative attempts.

The Bowel B.C. and A.D.

Sushruta (6th century BC) of India provides the oldest known description of bowel surgery. For intestinal evisceration as a result of penetrating abdominal trauma, he recommended that the bowel "was to be examined carefully, washed with milk, lubricated with clarified butter, and gently replaced in its natural position."¹ If the bowel was perforated, whether as a result of trauma or enterotomy for the relief of obstruction, Sushruta advocated approximating the edges of the

In the 16th century, nature's extraordinary ability to repair itself served as inspiration for a particularly important discovery in terms of surgical technique.

bowel and applying black ants in such a way that their mandibles clamped the edges of the wound

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together. The bodies of the ants were then snipped off, leaving only the heads in place to function like staples.²

Hippocrates³ (460-370 BC) believed that intestinal wounds were uniformly fatal, and he preferred observation and nonsurgical intervention for the treatment of abdominal diseases. He also described the Hippocratic sound — audible splashing noise with a bouncing palpation over the distended abdominal area secondary to intestinal obstruction.⁴

Although this nonsurgical viewpoint was prevalent among the ancient Greeks, there were some who believed that a more aggressive approach to intestinal disease was warranted. Praxagoras (350 BC), one of Hippocrates' students, suggested the following algorithm for the relief of obstruction secondary to hernia. First, attempt a closed reduction of the hernia, and, if unsuccessful, then perform either an open reduction of the hernial sac or amputation of the hernial sac and

its contents. The latter procedure often resulted in an intestinal stoma. Adjuvant therapies included massage, purgatives, enemas, emetics, and rectal insufflation with air. As a last resort, Praxagoras recommended an open laparotomy, removal of the obstructing mechanism, and subsequent restoration of bowel continuity by suture. However, whether Praxagoras actually performed such operations or merely believed them to be possible is unknown.³

Aretaios the Cappadocian⁵ (50?-? AD) described in detail the ileus secondary to incarcerated hernia, but he thought surgery was not necessary.

Galen (131-201 AD), one of the fathers of pathology and medicine, was interested in the high mortality rate associated with jejunal injuries. He postulated that vessels of the small intestines are "more liable to injury where they branch, and so, if some accident due to violent motion should befall any of these vessels, it would be their points of division that would be most likely to suffer."⁶ As physician to Roman gladiators, he had extensive experience suturing the abdominal wall and intestines. He believed "... the reason for the length of the small intestine was to let its owner off having to eat all the time..."⁷ Abraham of Santa Clara (1644-1709 AD),

The intent of this paper is not to present the complete picture of surgery of the small bowel, but rather to stimulate other authors to explore new avenues and horizons in the journey of medicine through the centuries.

a Viennese monk, inspired care for the sick with this anagram: "The most famous doctor was named Galenus. If one juggles the letters, one gets Angelus, meaning an angel — and that is what every doctor ought to be."⁸

A. Cornelius Celsus (1st century AD), the celebrated Roman medical encyclopedist, stated that exploratory laparotomies should never be performed. However, he did believe that it was appropriate to treat the external manifestations of intraabdominal pathology, usually by reduction followed by closure.³

The Middle Ages and Renaissance: From Stasis to Discovery

Not until the 12th century was further mention of intestinal surgery made. In general, the Middle Ages had been a time of stasis for medicine. In this period, intervention during the throes of disease was to be expected from God, not humans. Roger of Palermo, an important progenitor of the Salerno School, stated that "if a part of the tender intestine is wounded, it is better to leave the treatment to God than to man, since Death will follow it very soon."⁹ However, Roger of Palermo did not in all instances simply remain idle. In cases of intestinal evisceration, he suggested that, once sufficient time had elapsed for the bowel to get cold, the abdomen of an animal (dog, cat, or goat) should be opened and placed upon the extruded bowel until it became warm and soft. Then the bowel should first be cleaned with a sponge that had been soaked in hot water and then replaced within the abdominal cavity. The wound should be left open until the bowel showed signs of surviving, and during this time a drainage tube should be inserted and dressings should be changed every day. In the event of intestinal laceration, a tube (usually the trachea of an animal or large bird) would be placed

within the bowel lumen and the bowel wall sewn over it.²

In the 16th century, nature's extraordinary ability to repair itself served as inspiration for a particularly important discovery in terms of surgical technique. Such physicians as Paracelsus¹⁰ (1491-1541) and Fabricius Hildanus² (1560-1622) noted that individuals with transverse wounds of the intestine occasionally survived and recovered spontaneously without surgical intervention. They discovered that the proximal end of the injured bowel became attached to the abdominal wall at the site of the penetrating injury by adhesions and with spontaneous creation of an external intestinal fistula. Based on this observation, they recommended that the surgeon aid nature by suturing the proximal end of the bowel to the abdominal wall. Jean Riola (1577-1657) described arterial anastomoses at the intestinal mesentery. Later on, Lorenz Heister (1683-1758), in discussion of the above procedure, stated that,

For by this Means the Patient may not only be saved from instant Death, but there have been Instances where the wounded Intestine has been so far healed that the Faeces which used to be voided per Anum, have been voided in a Tin or Silver Pipe, & keeping Cloths constantly upon the Part to receive the Excrement may seem to be very troublesome: But it is surely far better to part with one of the Conveniences of Life, than to part with Life itself.¹¹

Responding to the high mortality still associated with the operative creation of an external intestinal fistula, Heister stated, "For it is better to try this Method, though but few should be saved by it, than to suffer all to perish, as Celsus observes; it is wiser to attempt a doubtful Remedy, than to absolutely to despair."¹¹

In 1622, Gasparo Aselli (1581-1626) described the lacteal vessels. He believed that they drained to the liver.¹² However, his belief proved incorrect in 1651 when Jean Pecquet¹³ (1622-1674) discovered the thoracic duct and cisterna chyli and when Olof Rudbeck¹⁴ (1630-1702) demonstrated that the intestinal lymphatics ultimately emptied to the thoracic duct. Several cases of gallstone perforation into the intestines were described by Thomas Bartholinus¹⁵ (1616-1680) in 1654. In 1670, Theodorus Kerckring¹⁶ (1640-1693) described the intestinal valvulae conniventes. And finally, in 1677, Johann Conrad Peyer, (1653-1712) of Switzerland, discussed the existence of the lymphoid follicles in the small intestine. Although he believed that these glands secreted enzymes, it would later be shown that these were indeed the conglomerate lymphatic structures that were associated with typhoid fever.¹⁷

18th Century: Slow Progress

In 1730, Ramdohr¹⁰ proposed an alternative surgical technique for treating transverse wounds of the intestines. He treated a soldier successfully by invaginating one end of the intestine into the other. According to Cope,¹⁸ Albrecht von Haller (1708-1777) described a case of intussusception that was treated by Velse in 1751. The patient was a 50-year-old woman who was left exhausted by her symptoms. A long incision was made in her abdominal wall and the intussuscepted portion of the bowel was found, placed in tepid milk, allowed to return to its normal condition, and was then returned to its place within the abdominal cavity. The patient recovered in perfect health.

Duverger of France¹⁹ reported his successful operation on a man with a strangulated inguinal hernia in 1757. He resected the gangrenous portion of the bowel, inserted the trachea of a dog within the lumen,

and sutured the intestine together over the trachea. The patient later passed the trachea in his stool and went on to recover. According to Duverger, this procedure had actually been performed by Fabricius d'Aquapendente in the 12th century. Johann Freidrich Meckel²⁰ (1781-1833) described the well-known diverticulum of the ileum or Meckel's diverticulum. Although the above cases may suggest that surgical outcomes improved during the 18th century, success was still infrequent, and most cases resulted in death.

19th Century: Changing Times

The 19th century was a period of tremendous change for medicine and, in particular, for surgery. Specifically, keen interest developed in the most efficacious manner to suture the bowel wall together. In 1812, Benjamin Travers²¹ (1783-1858) experimented with different suturing techniques and found that those which passed through all layers of the bowel wall healed well. In 1826, Antione Lambert²² (1820-1851) introduced a suture that passed through all layers of the bowel wall except the inner mucous membrane. He stressed the importance of accurate approximation and union of the serous surfaces.²³ In 1881, Theodore Billroth²³ (1829-1894) created detours treating acute or chronic intestinal obstruction by anastomosing parts of the small bowel. On January 15, 1885, Billroth performed his Billroth II procedure, and in 1897, Schlatter⁶ performed a total gastrectomy for cancer of the stomach and reconstructed the continuity of the gastrointestinal tract by anastomosing the lower esophagus to the upper small intestine. The patient survived for 1 year. Halsted²⁴ (1887), Senn² (1888), Cushing²⁵ (1889), Connell²⁶ (1892), Abbe²⁶ (1892), and others also made valuable contributions in bowel anastomosis and suturing.

The ability to prevent sepsis has probably been the most important reason for an improvement in the mortality rate associated with intestinal obstruction over the past 50 years.

Gut motility then became an active research subject. In 1857, Pfluger²⁸ noted that splanchnic nerve stimulation inhibited small intestinal movements. This suggested that the small intestine was under some sort of autonomic regulation. Carl Ludwig²⁹ (1861) observed the swaying motions made by the bowel between periods of peristalsis and called these motions "Pendelbewegungen." Auerbach and Meissner³⁰ described the intrinsic nerve plexuses of the small intestine in 1862. Franklin P. Mall³¹ demonstrated in 1896 that peristalsis occurred in one direction only (aborally), and that this could be attributed to an intrinsic structure within the bowel wall. His experiment consisted of reversing a short section of small bowel, thereby causing a focus of obstruction. And finally, in 1899, Bayliss and Starling³² stated that peristalsis was a reflex through the intrinsic plexus.

From the patient's viewpoint, probably the greatest advancement in bowel surgery was the introduction of general anesthesia. Crawford W. Long (1842) and William T. G. Morton (1846) demonstrated the efficacy of ether gas as an anesthetic agent, while Sir James Young Simpson (1847) described the important anesthetic properties of chloroform.³ These discoveries permitted not only a pain-free experience for the patient but also al-

lowed the surgeon the much needed time for proper exploration of abdominal pathology.

With longer exploration time, however, came an increase in mortality from sepsis. The concepts of antisepsis and asepsis began with Adolph Semmelweis of Vienna during the mid-19th century when he determined that the high rate of infection among postpartum mothers at the Allgemeine Krankenhaus was secondary to the housestaff not properly scrubbing before delivery.³ Unfortunately, Semmelweis' discovery did not alter the practices of many surgeons at that time. Even Sir Joseph Lister (1827-1912), who described in 1867 the proper means by which the surgical instruments and operating arena should be cleaned, met tremendous resistance from the surgical establishment.³³ Not until the period between 1870 and 1890, when Louis Pasteur and Robert Koch demonstrated the bacteriological principles associated with wound infections, did surgeons begin to alter their ways. Von Bergmann, Billroth, and von Mikulicz were among the first to adopt the aseptic method, and, as a result, they achieved unprecedented success rates.³⁴

As the 19th century came to an end, there was still considerable debate concerning whether battlefield abdominal injuries should be operated on. Because of the 100% mortality rate associated with untreated gun shot wounds to the abdomen during the Franco-Prussian War, James Marion Sims advocated surgical intervention. Unfortunately, such intervention did not improve the mortality rate significantly. In other military campaigns, such as the Boer War, surgical outcomes were so poor that many significant individuals believed that the patient with an abdominal wound should be allowed to die in peace. In civilian life, abdominal emergencies met with more favorable results. In fact, exploratory opera-

tions proved more efficacious than surgical abstention for the first time in the history of medicine. It was not until the Russo-Japanese War (1904-1905) that the discrepancy between civilian and military outcomes was clearly demonstrated. Princess Gedroitz of Russia showed that time was the key variable. She equipped a railcar as an operating room and had it transported to the front lines where she received the wounded with little delay. Her results were phenomenal. By the outbreak of World War I, there were

Not until Louis Pasteur and Robert Koch demonstrated the bacteriological principles associated with wound infections did surgeons begin to alter their ways.

very few abstentionists remaining.²³ Prompt exploration and utilization of aseptic technique became the order of the day.

20th Century: Asepsis and Antibiotics

Medicine has made tremendous technical strides during the 20th century. The treatment of some intestinal diseases and injuries has become very satisfactory, in terms of both risks and results. Emphasis has been placed on discovering the underlying pathophysiology of disease and from this perspective determining the most effective treatment. This point has been well illustrated in the study of intestinal obstruction. In 1912, Hartwell and Hoguet³⁵ produced bowel obstruction in dogs and noted that large amounts of saline injected subcutaneously prolonged the dogs' lives. In the 1920s, Ryle pioneered meth-

ods for passing tubes into the stomach for decompression. In 1933, Wangenstein advocated intestinal decompression in cases of intestinal obstruction. He also suggested the liberal use of saline solution infusion in the event of a high obstruction, which offset the fluid and electrolytes lost due to vomiting, but he also recognized that saline introduction was of little value in the patient with low obstruction. In 1934, Thomas Grier Miller and William Osler Abbott invented a tube that was to be passed into the intestine for decompression.²³ In 1949, Nemir, Jr., and colleagues pointed out that time was a key variable in the prognosis of strangulated obstruction. They showed that late in the course of strangulated obstruction, the bowel wall became permeable to its contents, thereby allowing intestinal bacteria to escape into the peritoneal cavity and to establish sepsis.

The ability to prevent sepsis has probably been the most important reason for an improvement in the mortality rate associated with intestinal obstruction over the past 50 years. Although accurate and expeditious diagnosis, alleviation of mechanical factors such as bowel distention, and prompt surgical intervention using aseptic technique have played significant roles in the prevention of sepsis, the greater credit can probably be given to the use of antibiotics. To illustrate this point, Tendler and Cartwright³⁷ reported a 26% mortality rate among patients with intestinal obstruction from 1933 to 1946. Their subsequent death rate from 1947 to 1955 was 8.5%. Turner² showed that the mortality rate dropped from 27% to 4% among patients with intestinal obstruction in 1955 as a result of introduction of antibiotics.

This partial presentation of the history of the small bowel is but a small part of the rich body of the history of surgery. In the preface

his beautiful book, Haeger⁵ points out that historical medical literature is in short supply, and he is right. The intent of this paper is not to present the complete picture of surgery of the small bowel, but rather to stimulate other authors to explore fully new avenues and horizons in the triumphant journey of medicine through the centuries.

We wish every medical school, especially our own Emory University, would have a Department of History of Medicine.

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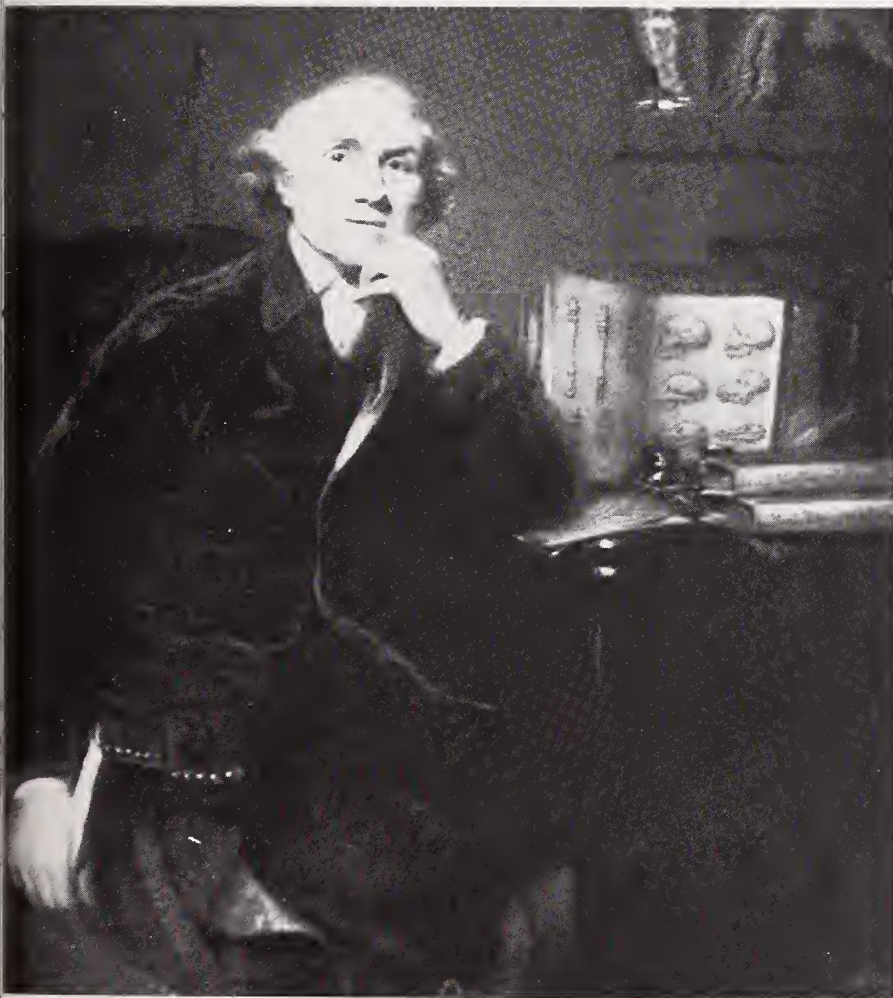


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The Personal and Professional Life of John Hunter

Mimi C. Skandalakis, John E. Skandalakis, M.D., Ph.D., F.A.C.S.



"To know the effects of disease is to know very little; to know the cause of the effects is the important thing."

— JOHN HUNTER TO HIS STUDENTS

omy, and the father of experimental surgery.

Hunter was a meticulous, conservative surgeon who scientifically explored all branches of surgery. His spiritual children include: John Abenerchy (1764-1831), the aneurysm surgeon; Astley Cooper (1768-1841), the brilliant surgeon and anatomist (Cooper's ligament is the best friend of the surgeon in herniorrhaphies); and Philip Sung Physick (1768-1837) who transplanted the Hunterian philosophy to America.

Early Years

John Hunter was the youngest of 10 children, born to John and Agnes Hunter near the village of East Kilbride in Scotland. His father was

Introduction

THE 18TH CENTURY marked a golden era of surgery and medicine in England. William Smellie (1697-1763) "brought midwifery within the orbit of medicine."¹ William Cheselden (1688-1752) was able with dexterity and anatomical perfection to save 50 cases out of

53. And finally, there was William Hunter (1718-1799), the noted anatomist and obstetrician. (How much we owe to these three Williams!) We do not want to forget Percival Pott (1714-1788) and Pott's disease. But the morning and evening star of this era was John Hunter (1728-1793), a giant of comparative anatomy, a giant of gross human anat-

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65 years old at the time of young John's birth. When he was 13 years old, his father died, leaving the young man in the custody of his mother. There is no evidence to suggest that Mrs. Hunter pursued his education with any vigor or instilled in the young boy any discipline or good working habits. The evidence is that his education was wholly neglected, a fact that caused him much unhappiness and regret during his adult life.

After trying his hand at cabinet-making with a brother-in-law in Glasgow, he decided to visit his brother, Dr. William Hunter, who had a successful practice in London. William accepted his younger brother as an assistant in his newly developed anatomical rooms, and at that point a dramatic change came over young Hunter. Ambition, stimulated by the wonderful influence of his older brother, wrought dramatic changes in his life. He became so proficient that soon he was in charge of preparing the anatomical specimens that his brother used in lectures. He soon acquired a reputation among his peers and fellow students as an excellent anatomist.

Hunter was a giant of comparative anatomy, a giant of gross human anatomy, and the father of experimental surgery.

William wanted his brother to attend medical school at Oxford, since medicine was deemed to be a higher form of the healing arts than surgery. He also needed at least a working knowledge of Greek and Latin, as he would not have been considered educated without it. Hunter was then 27 years old and had an excellent working knowledge of anatomy due to what we

would today call "on-the-job training." He had no patience with the thought of being shut up in an institution learning "dry, dead languages" such as Greek and Latin. In later years, his medical writing suffered due to this omission in his education, and one cannot but think how much more he would have benefitted had he been induced to remain at Oxford.

In 1756, he obtained the post of House Surgeon at St. George's Hospital, where he had been a pupil. He had to abandon this position later due to failing health and the fear that he had contracted tuberculosis. He sought a change of air, and through the influence of his friends he obtained the position of Staff Surgeon with the Army on an island off the coast of France. He obtained an excellent knowledge of gunshot wounds and various diseases and accidents that afflicted the army in those days.

Hunter, his health restored, returned to London in 1763 with very little monetary resources but extremely rich in medical experience. To his dismay, however, he found that his brother had filled his previous position with a brilliant young anatomist, William Hewson, who was later to become famous for his discoveries about lymphatic vessels and coagulation of the blood. The appointment of Hewson is one of the many controversies surrounding the history of John Hunter's life. According to Garrison,² John Hunter actually left Hewson in charge of his brother's dissecting room when he went abroad with the army.

Hunter subsequently opened a school of anatomy and took on a group of pupils in apprenticeship. His private pupils were given room and board and were taught anatomy. One of his pupils was Edward Jenner (1749-1825) with whom he maintained a life-long friendship and correspondence. When Jenner

discussed with him the possibility of preventing smallpox through vaccination, Hunter said, "Don't think! Be patient and accurate and try it."³ His correspondence with Edward Jenner was legendary, and it is fascinating to read of his demands for specimens from Jenner and his observations concerning the colors in nature. An excellent publication is the compiled letters from John Hunter to Edward Jenner entitled *Letters from the Past*,⁴ which can be obtained from the Royal College of Surgeons of England.

Hunter did not acquire a hospital appointment until he was 40 years old, despite his growing reputation as an eminent anatomist and surgeon. In 1768, he was appointed to St. George's Hospital through the influence of his brother. This appointment appears to have been a turning point in his life. This position assured him a lucrative practice, and he no longer lacked for patients.

One of Hunter's less dramatic but important contributions to medicine was his *Treatise on the Natural History and Diseases of the Teeth*. During that time, dentistry consisted mostly of simply extracting teeth or filling them in. Hunter experimented with tooth transplantation but finally abandoned this operation because of the poor results from sepsis. The field of dentistry regards him as one of the fathers of orthodontia.

Hunter's Personal Life

In 1764, his economic outlook was much improved, and he was able to buy land about 2 miles out of London on a site called Earl's Court. He built a large residence to house his large collection of anatomical specimens. Hunter loved and was fascinated by animals, and he collected a number of mammals, birds, and reptiles. He would arise early in the morning to study these specimens and the natural history curiosities he collected. It is

paradoxical to read about the cruel and barbarous experiments that he performed on various animals in his quest for knowledge.⁶ In 1773, Hunter studied animal electricity in the torpedo.² Nineteen years later Galvani⁷ built on these experiments to arrive at his ground-breaking work in the field.

From a personal perspective, Hunter was hampered socially by a lack of gentility; his manners were, at best, abrupt and, at worse, coarse and repulsive. He was seriously lacking in the social graces that are generally regarded as important, especially on first impressions. He was extremely conscious of his superior mentality and, therefore, was inclined to view others with a measure of contempt. His energy and deep belief in himself helped him overcome, to some extent, his serious social handicaps.

Hunter married Miss Ann Home in 1771 at the age of 43. Interestingly, his engagement to her lasted years, presumably because his resources were so meager. As soon as he obtained his hospital appointment and his finances improved, they married.

Mrs. Hunter seems to have been a lady of considerable refinement with elegant manners and an impressive knowledge of music. She was an accomplished hostess and entertained frequently with excellent taste. Hunter, a complex human being given to unseemly displays of anger, did not suffer fools with any degree of patience. This rude and unpleasant behavior could often manifest itself when Mrs. Hunter was entertaining. On one such occasion, Mrs. Hunter was hostessing a large group of ladies and gentlemen when Hunter displayed a considerable rudeness by announcing that he had come home to study and asked the guests to leave.⁸ Hunter simply had no taste or inclination toward "polite" society. However, despite these rude displays of temper and the diversity

of their upbringing, the Hunters enjoyed a very successful marriage based on mutual love and respect. The marriage produced four children, only two of whom survived their father.

In spite of his temper tantrums, Hunter loved social contact, especially with his pupils, friends, and children. He was also extremely fond of his animals and would spend many hours playing with them. One extreme example was a wrestling match between him and a pet bull that had been given to him by the Queen. Hunter was nearly killed when the animal became enraged, and he narrowly escaped death due to the intervention of a nearby servant. This incident apparently did not moderate his propensity for mingling with wild animals.⁸ On another occasion, a pair of pet leopards escaped from their pens, and Hunter rushed out after hearing the screams of the neighbors. He grabbed the animals by the neck and dragged them back to their kennels. At one time he was contemplating the establishment of a zoological garden but abandoned the idea when Edward Jenner declined to join him.

Considering his love of animals, it is paradoxical to read about the cruel and barbarous experiments that he performed on various animals in his quest for knowledge.

Hunter's greatest strength was his lively curiosity and his willingness to experiment. His intense curiosity and lively intelligence can be noted in the portrait painted by Sir Joshua Reynolds

which can be seen in the Royal College of Surgeons (Figure 1).

Life Amongst His Peers

Despite the fact that Hunter was treated with contempt and indifference by his medical contemporaries, he was given many honors and testimonials from many societies throughout Europe. It seems that nothing came easily to Hunter. He noted, "The few good things I have been able to do have been accomplished with the greatest difficulty, and encountered the greatest opposition."⁸ Hunter was considered to be arrogant, but he readily admitted his mistakes and failures while performing experiments or operating on his patients. One is startled to read in his medical papers concerning one case, "Whenever I have seen the dura mater opened, . . . the patients have died . . . he died, and I think it is probable I killed him, by opening the dura mater."⁶

Hunter's system of recording his works was completely unorthodox. He would scribble his thoughts or observations on scraps of paper and envelopes, leaving his assistants to copy them in an orderly fashion. He apparently had no interest in preserving his handwriting for posterity, and the scraps of paper usually were folded up by Hunter and found their way to his mantelpiece where he used them to light his candles.

Hunter's Medical and Scientific Legacies

John Hunter's contributions to the worlds of science and medicine are many. Of Hunter's contribution to surgery, Mather asserts, "He found surgery a mere mechanical art . . . he left it a beautiful science."⁹ In the field of vascular surgery, he developed the practice of ligation of brachial artery aneurysms. Did he know the work of Aetius of Amida, Guillemeau, or Anel? Did he disregard the work of his predecessors? We don't know.²

In studying cardiac functions, Hunter reported patients with congenital defects of the heart, pericarditis, endocarditis, megalocardia, diseases of the valves, arrhythmia, and ischemic heart disease. Proudfit¹⁰ published a summary of Hunter's work in this area. Jenner, expanding on the work of Hunter, was the first to recognize the association of coronary artery disease and angina pectoris.¹¹

As an anatomist, Hunter explored the splenic and renal arteries and concluded that they did not anastomose. As an extension of this work, the segmental anatomy of these organs was described more than 100 years later. The Hunterian Museum of the Royal College of Surgeons and the specimens of his anatomical preparation which now are in the anatomy department of the University of Glasgow are concrete evidence of the anatomical genius of John Hunter.

Hunter studied congenital anomalies and considered abnormalities as an expression of "arrested development."¹² Hunter discovered loose particles in the joint that he termed "joint mice."¹² As a pathologist, Hunter believed that disease is an alteration of vital properties or principles. He also believed that structure follows function. In the arena of biology, Garrison² places him with Haller and Muller.

During his life, Hunter's own health remained marginal. Early in life he suffered from lung inflammations which he seems to have overcome since he went into active duty in the Army. He also suffered from angina pectoris and various other symptoms which were probably due to an aneurysm. His standard remedy was to pause from his work to spend a few weeks taking the waters at Bath.

Hunter's Demise

According to Kligfield,¹¹ Hunter's death was caused by his "ire" in

Despite the fact that Hunter was treated with contempt and indifference by his medical contemporaries, he was given honors and testimonials from many societies throughout Europe.

association with the underlying pathology of his coronary artery disease. On October 16, 1793, Hunter attended a board meeting at St. George's. It is generally believed that a statement made by Hunter was disputed vehemently by one of the other attendants at the meeting whereupon Hunter's infamous temper took over. He flew into a rage, ran choking with anger from the room, and died in the hands of one of the attendant physicians.

The autopsy, performed by his brother-in-law Everard Home, revealed atherosclerosis with calcification in the coronary arteries and ossified internal carotid and vertebral arteries. The general consensus is that Hunter's illness was a nonspecific atherosclerosis which resulted in his death.⁴ Some reports¹¹ state that Jenner was aware of Hunter's angina but never discussed it publicly. It has been alleged that Hunter suffered from venereal disease which he inflicted upon himself.¹³ As a matter of record and supported by his autopsy, however, there was no such evidence.⁴

John Hunter was buried on October 22, 1793, in the crypt of the Church of St. Martin-in-the-Fields with only a few friends and associates attending. In 1859, because

of the imperishable splendor of his work, his body was reinterred in Westminster Abbey, taking his rightful place in history with England's great men and women. John Hunter burned with the flames of comparative anatomy, gross human anatomy, experimental surgery, surgical anatomy and technique, and, last but not least, surgical education, a process which produced the Hunterian surgeons and all his beloved students.

Note

Garet Rogers wrote: "*Exegi monumentum aere perennius*, William Hunter liked to say. And so he had for it was he who placed a lance in John Hunter's hand."¹⁴ We dedicate this article to Dr. Nickolas E. Skandalakis, who placed the lance in the hands of his brother (JES).

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Parliamentary Q's and A's

PEACHTREE PARLIAMENTARIANS
Mary Lou Stephens, Julia vonHaam

Editor's Note: PARLIAMENTARY Q's and A's by Peachtree Parliamentarians will be printed from time to time in the Journal. Mary Lou Stephens and Julia vonHaam are Professional Registered Parliamentarians certified by the National Association of Parliamentarians. Both are members of the MAG Auxiliary. Physicians are invited to submit questions or problems of general interest in the area of meeting procedure.

Q. *There is one physician at our hospital staff meetings that always dominates discussions to the point that people don't want to attend the meetings and listen to his incessant opinions. Is there any way to keep someone from dominating meetings?*

A. This is one of the most frequent complaints that we hear. The established rules of debate are intended to prevent just this kind of situation. However, the presiding chairman or officer needs to know the rules of debate before he can



enforce them. Two important rules are these:

1. No member can speak more than twice on the same issue at a meeting.

Mrs. Stephens and Mrs. vonHaam are consultants in parliamentary law and procedure. Send reprint requests to Mrs. vonHaam, 3888 Fairfax Court, Atlanta, GA 30339.

2. No member can speak the second time on the same issue until everyone wishing to speak on that question has had his opportunity.

When Dr. X begins to speak the third time on an issue the chairman should say, "The member has exhausted his right to debate" and recognize someone else; or another member can raise the point of order that Dr. X has already spoken twice.

You may not stifle the remarks of an opinionated member: he has the same fundamental rights of debate as any other member. But if you keep him from going beyond his rights, you will most likely keep the other members satisfied with the conduct of your meetings.

Q. *The bylaws of our county medical association say that the past-president is a member of the Board of Directors. Our immediate past-president has moved out of the state. Should we appoint the president before him to the Board?*

A. In a situation where the bylaws

are unclear, the organization has the right to interpret their meaning. It should then amend the bylaw to clearly express the majority decision. Our opinion would be that the Board should not appoint a past-president to fill the vacancy of the immediate past-president. It is reasonable to assume that the intention of this organization was to have the immediate past-president on the Board of Directors as an advisor to ensure continuity.

Q. *I am on a special committee of five that is to make a recommendation about whether or not to revoke staff privileges of a doctor on our staff. I do not agree with the other physicians on the committee. Is there any way that I can object to their recommendation?*

A. A committee such as the one you are serving on should present a written report with the recommendations that have been agreed to by a majority of the committee. This report is signed by the concurring members. You are within your rights to submit a minority report. Sometimes a committee member agrees with a report except for one or two particulars. In such a case, the member may add a statement to the report saying that he concurs with the report except the part that he specifies.

Q. *Can a member of our medical society serve as treasurer for an unlimited number of terms?*

A. This is the kind of question that should be determined by what is in your bylaws since the object of bylaws is to determine the basic struc-

ture of an organization. There is no specific prohibition for multiple terms in Robert's Rules of Order Newly Revised. Therefore, if you find that your bylaws are silent on this matter, multiple terms would be allowable.

Q. *Someone at our surgical staff meetings always moves to dispense with the reading of the minutes. Is this proper?*

A. By majority vote the reading of the minutes can be "dispensed with" which means not carried out at the regular time. However, using this motion they must be read either later in the same meeting or at the beginning of the following meeting. It is possible to suspend the rules and have the minutes approved without having them read. You are cautioned to take care in the accuracy of minutes since they become the legal record of actions by the committee or organization.

Q. *A motion was adopted with 15 "ayes," 0 "noes," and 2 abstentions. There is disagreement about whether to call this a unanimous vote.*

A. The vote was unanimous in favor of the motion. Abstentions are not counted in determining the outcome of a vote.

Q. *We were discussing an issue at our last staff meeting and someone moved to table the motion to the next meeting. Does that kill the issue?*

A. It sounds to us that incorrect terminology has been used and that

the member intended to *postpone* further discussion until the next meeting. If so, the motion would automatically be taken up again at the next meeting after reports of committees under "unfinished business." Whenever a motion is tabled, any member can move later in a meeting that it be taken from the table. Strictly speaking, a motion to table should be used only to lay a question aside temporarily in order to deal with something of immediate urgency.

Q. *There has been a lot of grumbling about how long our Board meetings have been lasting. What can we do to make them shorter?*

A. Any member can make a motion to adjourn regardless of whether all the business on the agenda has been disposed of. If a majority vote to adjourn the meeting is over. There is also the option to provide for a continuation of the meeting on another day which is called an adjourned meeting.

Q. *Our county can elect three delegates to the MAG Convention. There were five candidates. The two top vote-getters received over a majority of the votes, the next two tied with 10 votes each, and the fifth got only 2 votes. Should there be a runoff election between the two candidates who tied?*

A. If Robert's Rules of Order Newly Revised is your parliamentary authority, you will declare the top two vote-getters elected and reballot for the third delegate spot with all three remaining candidates on the ballot.

Cholesterol Screening in Children: A Consensus Statement—Finally

William B. Strong, M.D.

ALL CHILDREN with a positive family history of premature coronary artery disease, cerebrovascular disease or peripheral vascular disease, and/or hyperlipidemia should have their total cholesterol measured. Positive family history (FH+) is defined as first and second degree relatives—this includes parents, siblings, grandparents and aunts and uncles. Premature coronary artery disease (CAD) is defined as a history of a myocardial infarction, coronary artery surgery or angioplasty or catheterization proven diagnosis of CAD. Hyperlipidemia is defined as a value greater than 240 mg/dl.

The National Cholesterol Education Program Expert Panel on Blood Cholesterol Levels in Children and Adolescents developed an excellent document to guide the diagnosis and management of the child at potential risk of adult onset CAD as well as a review of the subject and recommendations for a population based approach to CAD. The Expert Panel provided sufficient flexibility in their document to assuage those pediatricians who believe that all children in their practice should have their blood cholesterol measured. In this particular circumstance, they stress the importance of the pediatrician having the ability to appropriately counsel, manage, and refer selected patients to a pediatric lipidologist.

The focus of the individualized approach is to detect and treat the

hypercholesterolemic child or adolescent whose elevated LDL-cholesterol level is likely to signify increased risk in adulthood. The classification of total cholesterol and LDL-cholesterol levels in children and adolescents from families with hypercholesterolemia or premature CAD is shown in the Table.

The screening protocol varies according to the reason for testing. For young people being tested because they have at least one parent with high blood cholesterol, the initial test should be a measurement of total cholesterol. If the child's or adolescent's total cholesterol is high (≥ 200 mg/dl), a lipoprotein analysis should be obtained. If the total cholesterol level is borderline (170-199 mg/dl), a second measurement of total cholesterol should be taken and if the average is borderline or high, a lipoprotein analysis should be obtained.

For young people being tested due to a documented history of premature cardiovascular disease in a parent or grandparent, the initial test should be a lipoprotein analysis because a high proportion of these children have some lipoprotein abnormality. In both cases, once a lipoprotein analysis has been obtained, it should be repeated to determine the average LDL-cholesterol level, which will determine the recommended steps for risk assessment and treatment. Follow-up of the LDL-cholesterol determination is as follows:

Acceptable LDL-Cholesterol (< 110 mg/dl): If the average LDL-cholesterol is in the acceptable range, provide education on the eating pattern recommended for all children and adolescents and on CAD risk factors; repeat lipoprotein analysis in 5 years.

Borderline LDL-Cholesterol (110-129 mg/dl): If the average LDL-cholesterol is borderline, provide risk factor advice, strongly encour-

TABLE
Classification of Total and LDL-Cholesterol Levels in
Children and Adolescents from Families with
Hypercholesterolemia or Premature Cardiovascular
Disease

Category	Total Cholesterol	LDL-Cholesterol
Acceptable	< 170 mg/dl	< 110 mg/dl
Borderline	170-199 mg/dl	110-129 mg/dl
High	≥ 200 mg/dl	≥ 130 mg/dl

age adoption of the Step-One Diet and other risk factor intervention; and re-evaluate the patient's status in 1 year.

High LDL-Cholesterol (> 130 mg/dl): If the average LDL-cholesterol level is high, evaluate the pa-

tient for secondary causes and familial disorders; screen all family members; initiate the Step-One Diet, followed if necessary by the Step-Two Diet. In this case, a dietitian will almost always be necessary to assist the family.

In a future issue of the JMAG, we will present a more detailed description of the components of preventive pediatric cardiology program.

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Oral Cancer

Michael D. Goldstein, D.D.S., F.A.G.D.

CANCER OF THE MOUTH accounts for about 4% of all detected cancers in this country.¹ It can usually be detected in its early stages upon routine examination by a dentist or physician. Because the 5-year survival rate of patients with oral cancer is only 50%,¹ early diagnosis is critical. By routine examination of the oral cavity during the physical examination, the physician can play a major role in the early detection of these lesions.

There are approximately 19,500 new cases of oral cancer reported in the United States each year.² If laryngeal cancers are added to this number, the total exceeds 27,000.² The Centers for Disease Control recently reported that there were over 9,700 deaths in the U.S. in 1987 from cancers of the oral cavity and pharynx. The most common malignant neoplasm of the oral cavity is squamous cell carcinoma, which accounts for about 90% of the total number of malignant oral lesions.³

The overall incidence of oral cancer in the United States is 6.5 per 100,000 persons. The ratio of male-to-female is about 2.4 to 1. Ninety-five per cent of oral carcinomas occur in persons more than 40 years of age. The average age of diagnosis is 60 years. The exact cause of oral cancer is unknown. It has been shown that the use of tobacco and alcohol significantly increases the risk of developing oral cancer. Studies have revealed that there are more than twice as many smokers among oral cancer patients as among control populations.¹ The

association between the use of tobacco and oral cancer also includes cigars, pipes, and chewing preparations. With an estimated user population of over 22 million, the carcinogenic hazard of snuff dipping and tobacco chewing is of special concern. The risk of cancer of the soft tissues is almost 5000% higher in long-term users.¹

‘The innocuous-appearing red inflammatory or erythroplastic mucosal changes related to early cancer have been shown to be the most common presentation of early carcinoma.’

Chronic oral irritation, such as from poorly fitted dentures or oral appliances, irregular or sharp teeth, and various other physical agents have been implicated as factors in the development of intraoral malignant lesions. We now believe that physical irritation plays little or no part in the natural history of oral carcinoma.⁴

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The most prevalent site for oral carcinoma is the lateral border of the tongue, particularly in the posterior one third. Such lesions account for between 20 to 30% of all the malignancies.¹ Closely following is the oropharynx and the floor of the mouth. These three sites, collectively, account for about 80% of the malignancies.¹ Other locations include the lips, gums, palate, and cheeks.

A diagnosis of advanced squamous cell carcinoma is not difficult to establish. Symptomatic cancers are frequently characterized by ulceration, bleeding, pain, and induration. These are usually at least Stage II lesions (T2 or larger).⁵ Early cancers are frequently asymptomatic and differ significantly from symptomatic cancers in appearance and clinical presentation. Early cancers, therefore, frequently remain undetected.

Leukoplakia has often been regarded as the most common "pre-cancerous" lesion of the oral cavity. Only about 2-4% of white lesions, however, are actually invasive carcinoma or carcinoma in situ; and only a very small percentage of leukoplakias eventually develop into cancer.⁴ The innocuous-appearing red inflammatory or erythroplastic mucosal changes related to early cancer have been shown to be the most common presentation of early carcinoma. Areas of mucosal erythroplasia are not rare, as had been previously believed. Most of these asymptomatic lesions are less than 2 cm in diameter, are predominantly red, with or without a white

component, and are smooth, granular, or minimally elevated.⁴

Two distinct types of erythroplastic lesions suggest carcinoma. The first is a granular, red velvety lesion with stippled or patchy areas of keratin within or peripheral to the lesion. The keratinized areas appear to be lying on a red inflamed mucosal surface. The other type is a smooth, nongranular lesion, primarily red, with minimal or no keratosis. The mucosal surface seems atrophic and worn. The appearance of these lesions changes from day to day, and the degree of inflammation may also vary. Ulceration, bleeding, induration, and exophytic growth beyond 1 mm are uncommon.

A thorough evaluation of the oral tissues should be an integral part of a complete physical evaluation. This is especially important for the previously identified high risk group, smokers or drinkers over the age of 40. After all removable oral appliances such as dentures and partial dentures are removed, an examination of the floor of the mouth, the ventrolateral aspect of the tongue, and the soft palate complex (uvula, soft palate proper, anterior pillar, and the lingual aspects of the retromolar trigone) is performed. At least 90% of early carcinomas are found in these areas.²

Because oral cancer has such a poor prognosis, early detection is

‘Because oral cancer has such a poor prognosis, early detection is essential to the improvement of cure rates. Physicians can play a major role in early detection.’

essential to the improvement of cure rates. Biopsy remains the only definitive method of diagnosing oral cancer. Because it is not practical to immediately biopsy all suspicious lesions, exfoliative cytology serves as a simple, reliable, and acceptable technique to support clinical judgment in differentiating benign from early malignant lesions. Vital staining with toluidine blue dye (tolonium chloride) has also been shown to aid early recognition and accelerate biopsy, diagnosis, and treatment of lesions. Although few false negatives have been reported with the toluidine blue rinse, some reports indicate a high percentage of false positives with inflammatory lesions.² High clinical suspicion always mandates biopsy. A diagnosis of carcinoma can be established only by biopsy.

Surgery and radiation are the principal methods of treatment of oral cancer. The choice depends

on the site and the stage of the disease. For instance, surgical excision is the preferred treatment modality for early intraoral squamous carcinoma without associated lymphadenopathy.⁶

Only half of all oral cancer patients are alive 5 years after treatment. This ratio has not changed significantly through the years because many oral carcinomas are not diagnosed when they are asymptomatic (Stage I). At the time of diagnosis, most are large, symptomatic, Stage III and IV lesions. Greater attention should be given to screening patients at high risk for the presence of small asymptomatic oral carcinomas to increase the 5-year survival rate of these patients. Routine oral examination by the family physician can have a major impact on accomplishing this goal.

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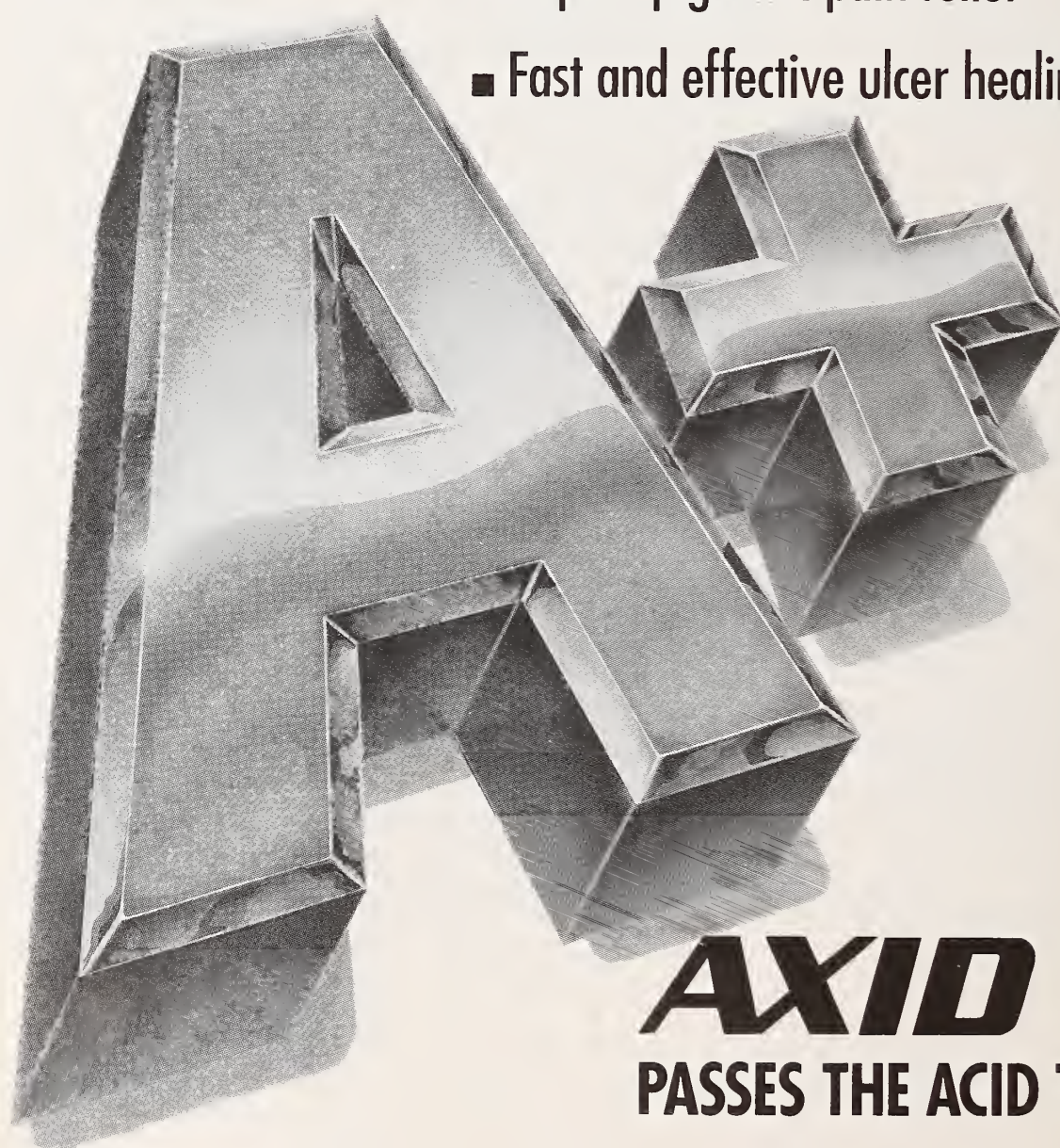
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Drug Interactions—No interactions have been observed with theophylline, cimetidine, lorazepam, lidocaine, phenytoin, and warfarin. Axid does not inhibit the cytochrome P-450 enzyme system; therefore, drug interactions mediated by inhibition of hepatic metabolism are not expected to occur. In patients given very high doses (3,900 mg) of aspirin daily, increased serum salicylate levels were seen when nizatidine, 150 mg b.i.d., was administered concurrently.

Carcinogenesis, Mutagenesis, Impairment of Fertility—A 2-year oral carcinogenicity study in rats with doses as high as 500 mg/kg/day (about 80 times the recommended daily therapeutic dose) showed no evidence of a carcinogenic effect. There was a dose-related increase in the density of enterochromaffin-like (ECL) cells in the gastric oxyntic mucosa. In a 2-year study in mice, there was no evidence of a carcinogenic effect in male mice, although hyperplastic nodules of the liver were increased in the high-dose males as compared with placebo. Female mice given the high dose of Axid (2,000 mg/kg/day, about 330 times the human dose) showed marginally statistically significant increases in hepatic carcinoma and hepatic nodular hyperplasia with no numerical increase seen in any of the other dose groups. The rate of hepatic carcinoma in the high-dose animals was within the historical control limits seen for the strain of mice used. The female mice were given a dose larger than the maximum tolerated dose, as indicated by excessive (30%) weight decrement as compared with concurrent controls and evidence of mild liver injury (transaminase elevations). The occurrence of a marginal finding at high dose only in animals given an excessive and somewhat hepatotoxic dose, with no evidence of a carcinogenic effect in rats, male mice, and female mice (given up to 360 mg/kg/day, about 60 times the human dose), and a negative mutagenicity battery are not considered evidence of a carcinogenic potential for Axid.

Axid was not mutagenic in a battery of tests performed to evaluate its potential genetic toxicity, including bacterial mutation tests, unscheduled DNA synthesis, sister chromatid exchange, mouse lymphoma assay, chromosome aberration tests, and a micronucleus test.

In a 2-generation, perinatal and postnatal fertility study in rats, doses of nizatidine up to 650 mg/kg/day produced no adverse effects on the reproductive performance of parental animals or their progeny.

Pregnancy—Teratogenic Effects—Pregnancy Category C—Oral reproduction studies in rats at doses up to 300 times the human dose and in Dutch Belted rabbits at doses up to 55 times the human dose revealed no evidence of impaired fertility or teratogenic effect, but, at a dose equivalent to 300 times the human dose, treated rabbits had abortions, decreased number of live fetuses, and depressed fetal weights. On intravenous administration to pregnant New Zealand White rabbits, nizatidine at 20 mg/kg produced cardiac enlargement, coarctation of the aortic arch, and cutaneous edema in 1 fetus, and at 50 mg/kg, it produced ventricular anomaly, distended abdomen, spina bifida, hydrocephaly, and enlarged heart in 1 fetus. There are, however, no adequate and well-controlled studies in pregnant women. It is also not known whether nizatidine can cause fetal harm when administered to a pregnant woman or can affect reproduction capacity. Nizatidine should be used during pregnancy only if the potential benefit justifies the potential risk to the fetus.

Nursing Mothers—Studies in lactating women have shown that 0.1% of an oral dose is secreted in human milk in proportion to plasma concentrations. Because of growth depression in pups reared by treated lactating rats, a decision should be made whether to discontinue nursing or the drug, taking into account the importance of the drug to the mother.

Pediatric Use—Safety and effectiveness in children have not been established.
Use in Elderly Patients—Healing rates in elderly patients were similar to those in younger age groups as were the rates of adverse events and laboratory test abnormalities. Age alone may not be an important factor in the disposition of nizatidine. Elderly patients may have reduced renal function.

Adverse Reactions: Clinical trials of varying durations included almost 5,000 patients. Among the more common adverse events in domestic placebo-controlled trials of over 1,900 nizatidine patients and over 1,300 on placebo, sweating (1% vs 0.2%), urticaria (0.5% vs <0.01%), and somnolence (2.4% vs 1.3%) were significantly more common with nizatidine. It was not possible to determine whether a variety of less common events were due to the drug.

Hepatic—Hepatocellular injury (elevated liver enzyme tests or alkaline phosphatase) possibly or probably related to nizatidine occurred in some patients. In some cases, there was marked elevation (>500 IU/L) in SGOT or SGPT and, in a single instance, SGPT was >2,000 IU/L. The incidence of elevated liver enzymes overall and elevations of up to 3 times the upper limit of normal, however, did not significantly differ from that in placebo patients. All abnormalities were reversible after discontinuation of Axid. Since market introduction, hepatitis and jaundice have been reported. Rare cases of cholestatic or mixed hepatocellular and cholestatic injury with jaundice have been reported with reversal of the abnormalities after discontinuation of Axid.

Cardiovascular—In clinical pharmacology studies, short episodes of asymptomatic ventricular tachycardia occurred in 2 individuals administered Axid and in 3 untreated subjects.

CNS—Rare cases of reversible mental confusion have been reported.

Endocrine—Clinical pharmacology studies and controlled clinical trials showed no evidence of antiandrogenic activity due to nizatidine. Impotence and decreased libido were reported with equal frequency by patients on nizatidine and those on placebo. Gynecomastia has been reported rarely.

Hematologic—Fatal thrombocytopenia was reported in a patient treated with nizatidine and another H₂-receptor antagonist. This patient had previously experienced thrombocytopenia while taking other drugs. Rare cases of thrombocytopenic purpura have been reported.

Integumental—Sweating and urticaria were reported significantly more frequently in nizatidine- than in placebo-treated patients. Rash and exfoliative dermatitis were also reported.

Hypersensitivity—As with other H₂-receptor antagonists, rare cases of anaphylaxis following nizatidine administration have been reported. Rare episodes of hypersensitivity reactions (eg, bronchospasm, laryngeal edema, rash, and eosinophilia) have been reported.

Other—Hyperuricemia unassociated with gout or nephrolithiasis was reported. Eosinophilia, fever, and nausea related to nizatidine have been reported.

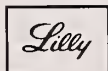
Overdosage: Overdoses of Axid have been reported rarely. If overdosage occurs, activated charcoal, emesis, or lavage should be considered along with clinical monitoring and supportive therapy. Renal dialysis does not substantially increase clearance of nizatidine due to its large volume of distribution.

PV 2091 AMP
(091190)

References

1. Data on file, Lilly Research Laboratories.
 2. Scand J Gastroenterol. 1987;22(suppl 136):61-70.
 3. Scand J Gastroenterol. 1987;22(suppl 136):47-55.
 4. Am J Gastroenterol. 1989;84:769-774.
- NZ-2943-B-149347

Additional information available to the profession on request.



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Indianapolis, Indiana
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YOCON® YOHIMBINE HCl

Description: Yohimbine is a 3a-15a-20B-17a-hydroxy Yohimbine-16a-carboxylic acid methyl ester. The alkaloid is found in Rubiaceae and related trees. Also in Rauwolfia Serpentina (L) Benth. Yohimbine is an indolalkylamine alkaloid with chemical similarity to reserpine. It is a crystalline powder, odorless. Each compressed tablet contains (1/12 gr.) 5.4 mg of Yohimbine Hydrochloride.

Action: Yohimbine blocks presynaptic alpha-2 adrenergic receptors. Its action on peripheral blood vessels resembles that of reserpine, though it is weaker and of short duration. Yohimbine's peripheral autonomic nervous system effect is to increase parasympathetic (cholinergic) and decrease sympathetic (adrenergic) activity. It is to be noted that in male sexual performance, erection is linked to cholinergic activity and to alpha-2 adrenergic blockade which may theoretically result in increased penile inflow, decreased penile outflow or both.

Yohimbine exerts a stimulating action on the mood and may increase anxiety. Such actions have not been adequately studied or related to dosage although they appear to require high doses of the drug. Yohimbine has a mild anti-diuretic action, probably via stimulation of hypothalamic centers and release of posterior pituitary hormone.

Reportedly, Yohimbine exerts no significant influence on cardiac stimulation and other effects mediated by B-adrenergic receptors, its effect on blood pressure, if any, would be to lower it; however no adequate studies are at hand to quantitate this effect in terms of Yohimbine dosage.

Indications: Yocon® is indicated as a sympatholytic and mydriatic. It may have activity as an aphrodisiac.

Contraindications: Renal diseases, and patient's sensitive to the drug. In view of the limited and inadequate information at hand, no precise tabulation can be offered of additional contraindications.

Warning: Generally, this drug is not proposed for use in females and certainly must not be used during pregnancy. Neither is this drug proposed for use in pediatric, geriatric or cardio-renal patients with gastric or duodenal ulcer history. Nor should it be used in conjunction with mood-modifying drugs such as antidepressants, or in psychiatric patients in general.

Adverse Reactions: Yohimbine readily penetrates the CNS and produces a complex pattern of responses in lower doses than required to produce peripheral alpha-adrenergic blockade. These include, anti-diuresis, a general picture of central excitation including elevation of blood pressure and heart rate, increased motor activity, irritability and tremor. Sweating, nausea and vomiting are common after parenteral administration of the drug.^{1,2} Also dizziness, headache, skin flushing reported when used orally.^{1,3}

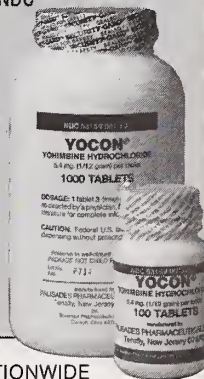
Dosage and Administration: Experimental dosage reported in treatment of erectile impotence.^{1,3,4} 1 tablet (5.4 mg) 3 times a day, to adult males taken orally. Occasional side effects reported with this dosage are nausea, dizziness or nervousness. In the event of side effects dosage to be reduced to ½ tablet 3 times a day, followed by gradual increases to 1 tablet 3 times a day. Reported therapy not more than 10 weeks.³

How Supplied: Oral tablets of Yocon® 1/12 gr. 5.4 mg in bottles of 100's NDC 53159-001-01 and 1000's NDC 53159-001-10.

References:

1. A. Morales et al., New England Journal of Medicine: 1221, November 12, 1981.
2. Goodman, Gilman — The Pharmacological basis of Therapeutics 6th ed., p. 176-188. McMillan December Rev. 1/85.
3. Weekly Urological Clinical letter, 27:2, July 4, 1983.
4. A. Morales et al., The Journal of Urology 128: 45-47, 1982.

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Sorter NA, Wasserman SI, Austen KF. Cold urticaria release into circulation of histamine and eosinophil chemotactic factor of anaphylaxis during cold challenge. *N Engl J Med* 1976;294:687-90.

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American Medical Association

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Flow Cytometry And Image Analysis In Clinical Medicine

**October 5, 1991
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A Basic Introduction To The Clinical Uses Of Flow Cytometry And Image Analysis

Basic Introduction to Flow Cytometry
Robert Bray, PhD
Department of Pathology
Emory University, Atlanta, GA

Historical Overview of Flow Cytometry
Howard Shapiro, MD
Lecturer in Pathology
Harvard University, Boston, MA

Flow Cytometry in HIV Infection
Janet Nicholson, PhD
Centers for Disease Control, Atlanta, GA

Basics of Leukemia and
Lymphoma Phenotyping
Alan Landay, PhD
Rush Medical Center, Chicago, IL

Clinical Applications of Cytometry in
Hematologic Malignancies
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Norwood Clinic, Birmingham, AL

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November, December 1991

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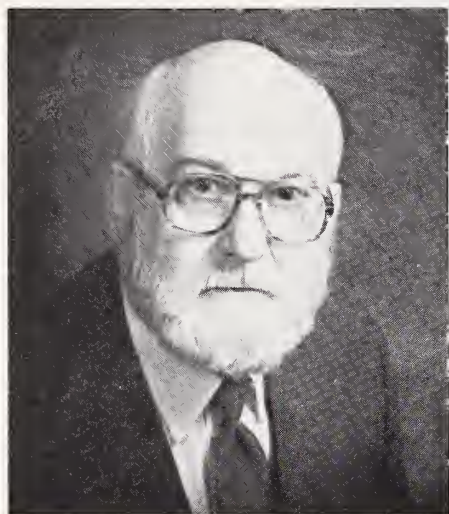
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THE COVER

Saint George and the Dragon, (Detail); Sodoma; National Gallery of Art, Washington, D.C.; Samuel H. Kress Collection. Date: probably 1518; wood.
Design by Richardson Design, Atlanta.



Cyler Garner, M.D.

WHILE IT IS NOT universally true, there is something to be said for the old saw that physicians make bad business people. I think that to us, the bottom line is always our patients, not financial profit.

So, you might say I'm very worried about the "bottom line" when it comes to my older patients. I wish our Congressmen could be in my office to face the confusion that my patients undergo when they try to understand Medicare. I wish some HCFA officials could be here to explain some of their decisions.

Though I really don't understand Medicare's payment system myself, I am fortunate to have a staff that does. Recently, two of my staff members spent almost 45 minutes trying to help one of my older patients understand a \$10 charge and how Medicare would pay it. They tied up three computer screens and, of course, their time. The sad thing is that I think the patient is still confused.

Every year we seem to get more paperwork and less money from the federal government. The federal government spends mil-

lions of dollars, much of which is unnecessary, on forms, papers, and other requirements, all the while complaining about the high cost of medical care. Its bureaucrats think of all sorts of ways to cut fees and services, but the government seldom considers cutting paperwork. If you read the recent report from the federal General Accounting Office, you would have found that one of the reasons the much touted Canadian system is supposedly less expensive to operate is because they have almost no reporting requirements. The doctor sends a bill, and the bill is paid. That's that in most cases.

So what did the GAO recommend: the Canadian system with the American system of paperwork and bureaucracy! In other words, they want to keep the bath water and throw out the baby.

I have no dream that we will see a reduction in paperwork. My solution, the only one available to me, is to limit any new Medicare patients to those who live in Wilkenson County. I simply cannot afford many more Medicare patients and keep my practice viable.

Iwonder how many business people would stand by and allow their customers to be harassed the way our patients are. I wonder how many businesses would tolerate intrusions such as we face which cost money and time yet are not compensated. Probably not many. I suspect they would all join together to fight such actions.

We are fortunate that we have many physicians who care enough about their patients to become involved in the Medical Association of Georgia's and the American Medical Association's efforts with regard to Medicare.

I believe the MAG and AMA offer the only chances we have to retain some right thinking in how medicine will be practiced. I know that the U.S. Congress won't have to face the people of Gordon. I will. And want to be able to provide them quality medical care. It's time for all of us to be involved.

Cyler D. Garner, M.D.

PERSONALS

Bibb CMS

Martin L. Dalton, M.D., succeeded Will C. Sealy, M.D., as Chairman of the Department of Surgery at Mercer University School of Medicine and Chief of Surgery and Program Director at the Medical Center of Central Georgia in Macon. Dr. Dalton was formerly on the Faculty of the University of Mississippi School of Medicine in Jackson. Dr. Sealy will remain on the staff devoting his efforts to teaching and research.

Frank M. Houser, M.D., of Augusta, is the new director of the Georgia Department of Human Resources Division of Public Health, effective July 1. He replaces James W. Alley, M.D., who died in November, 1990. Dr. Houser was formerly district health director in Augusta and also served as district health director in Dalton. He has held the posts of director of community programs and associate dean of the Mercer University School of Medicine. From 1980 to 1990, Houser was president and medical director of Southeastern Health Services, Inc., which provides medical services to members of PruCare Health Maintenance Organization.

Cobb CMS

Charles R. Underwood, M.D., a general surgeon in Marietta and editor of this journal, was elected chairman of the Blue Cross and Blue Shield of Georgia Board of Directors at the Board's annual meeting last Spring. Dr. Underwood joined that Board in 1973. He has served on the Executive Committee and was chairman of the

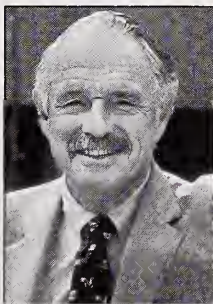


Medical Service Committee. He also serves on the Georgia Hospital Association Board of Trustees, the American Hospital Association Regional Advisory Board, and the board of trustees for the Kennesaw College Foundation.

DeKalb CMS

Alicia P. Leizman, M.D., has been honored by the Georgia Senate for her "valuable contributions to the health of the community." She was cited for her efforts on skin cancer prevention in a resolution sponsored by Sen. Steve Henson in the 1991 General Assembly.

G. Douglas Talbott, M.D., an Atlanta addictionologist, was recently honored for his enormous impact on the field of addiction. The American Society of Addiction Medicine gave him its Annual Award "in commemoration of Dr. Talbott's outstanding contributions to the advancement and knowledge of alcoholism and other drug dependencies and in grateful recognition of his unstinting dedication to heal the sick and troubled victims of this illness." Dr. Talbott is President of Talbott Recovery System and clinical Professor of Psychiatry at Emory University School of Medicine in Atlanta. He founded the Georgia Disabled Doctors Program in 1974, later known as the Impaired Physician Program, which became the national model for treatment of impaired health professionals.



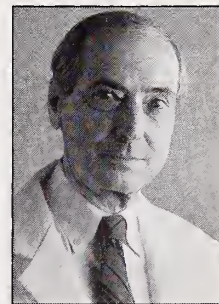
Medical Association of Atlanta

Atlanta orthopaedic surgeon **David F. Apple, Jr., M.D.**, was elected to the board of directors of the American Academy of Orthopaedic Surgeons at the organiza-

tions annual meeting last Spring. At Emory University in Atlanta, Dr. Apple is associate clinical professor or orthopaedic surgery and clinical assistant professor in rehabilitation medicine. He is also clinical professor, orthopaedics, at Georgia State University. Dr. Apple is on staff at Piedmont Hospital and is medical director of Shepherd Spinal Center, both in Atlanta. He serves as president of the orthopaedic Rehabilitation Association and is chairman of the Academy's Council of Musculoskeletal Specialty Societies.

Liela Denmark, M.D., a pediatrician in Alpharetta, was recently awarded an honorary degree from Mercer University in Macon. The 92-year-old physician perfected the world's first whooping cough serum. She graduated from the former Tift College in 1922 and attended Mercer before becoming one of the first women to enter the Medical College of Georgia in Augusta. Dr. Denmark still sees patients 4 days a week.

H. Dale Richardson, M.D., of Atlanta, was named to a 3-year term on the Board of Directors of the American Association of Neurological Surgeons at the



organization's annual meeting last May. Dr. Richardson has been active in the Joint Council of State Neurosurgical Societies, serving as Southeast Quadrant Chairman. On the local level, he has held office as Secretary-Treasurer and President for the Georgia Neurosurgical Society. Currently, Dr. Richardson is the Chairman of the Piedmont Hospital Department of Neuroscience and the Medical Director of the hospital's Neuroscience Institute, which includes the Gamma Knife Center.

Muscogee CMS

Bruce C. Newsom, M.D., a general surgeon/occupation medicine specialist in Columbus, has been certified as a Correctional Health Care Professional by the National Commission on Correctional Health Care. He is the Medical Director for the City of Columbus, which includes the City Jail and Muscogee County Correctional Institute.

South Georgia Medical Society

Roger W. Huelsnitz, M.D., has been appointed to the Volunteer Faculty of the School of Medicine at Mercer University as Clinical Assistant Professor, Department of Family and Community Medicine (Community Science). The volunteer faculty gives support and makes contributions to the School of Medicine and endeavors to fulfill a mission to educate primary care physicians for rural and underserved areas of Georgia.

Sumter CMS

John H. Robinson, III, M.D., an Americus surgeon, is the recipient of the 1991 University of Georgia School of Medicine Alumni Association Distinguished Alumnus Award.

Before his retirement several years ago, Dr. Robinson was chief of surgery at the Americus and Sumter County Hospital and also directed the Americus Tumor Clinic, one of the first such state-aid clinics in Georgia. From 1973 to 1988, he was also the Medical Director at Magnolia Manor. Dr. Robinson was a member of the University System of Georgia Board of Regents from 1972 to 1986 and on the Americus City Board of Education for 14 years. He is a past member of the Medical College of Georgia Foundation, Inc., Board of Directors and life member

of the MCG School of Medicine Alumni Association. After his retirement, Dr. Robinson also served as team physician for the University of Georgia Bulldogs in Athens.

DEATHS

Charles G. Child, III, M.D., of Atlanta, a retired surgical scientist and medical educator, died of a heart attack last June. He was 83.

Dr. Child was a professor and chairman of the department of surgery at Tufts University School of Medicine in Boston in 1953 to 1958, a professor in the department of surgery at the University of Michigan Medical Center from 1959 to 1977, and department chairman from 1959 to 1974, and an associate chief of staff of the Veterans Administration Hospital in Atlanta from 1978 to 1984.

Dr. Child established the University of Michigan's organ transplant program and invented a system for classifying patients with portal hypertension. The Child classification system is used around the world. He was a former chairman of the American Board of Surgery, former editor of the *Journal of Surgical Research*, a member of the National Academy of Sciences, and a former chairman of a policy committee of the National Research Council on Differences in Postoperative Mortality. In his spare time, Dr. Child made violins and boat models.

Stanley B. Wasserman, M.D., a physician with the Fulton County Health Department, died of heart failure last May at the age of 58.

Dr. Wasserman worked in the county's specialty clinic for sexually transmitted diseases from 1975 until his death; earlier he was in pediatric practice in Atlanta.

QUOTES

*Warm September brings the fruit
Sportsmen then begin to shoot.*

SARA COLERIDGE

Pretty Lessons in Verse, 18

*A maiden born when Autumn
leaves
Are rustling in September's
breeze,*

*A sapphire on her brow should
bind,*

*'Twill cure diseases of the mind
Author unidentified*

*People earnestly seek what they
do not want,
while they neglect the real
blessings in their possession —
mean the innocent gratification
their senses, which is all we can
properly call our own.*

MARY WORTLEY MONTAGU: *Letter
James Stewart*, Jan. 13, 17

*Serenity of mind and calmness
thought are a better enjoyment
than anything without us.*

BENJAMIN WHICHCOTE: *Moral and
Religious Aphorisms*, 17

*Common sense (which, in truth,
is very uncommon) is the best
sense I know of: abide by it, it
will counsel you best.*

LORD CHESTERFIELD: *Letter to
son*, Sept. 27, 17

*Life is the faculty of spontaneous
activity, the awareness that we
have powers.*

IMMANUEL KANT: *Lecture
Königsberg*, 17

*Life is eating us up. We shall be
fables presently. Keep cool: it will
be all one a hundred years hence.*

R.W. EMERSON: *Representative Men*
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SEPTEMBER

8-13 — *Savannah: 15th Annual Neonatology — The Sick Newborn.* Category 1 credit. Contact Div. of Cont. Ed., MCG, Augusta 30912-1400. PH: 404-721-067.

9-13 — *Rome: Toxicology Care.* AMA Category 1, AAFP prescribed credits. Contact Robert C. Fore, Ed.D., Mercer Univ. Sch. of Med., 777 Hemlock St., Macon 31201. PH: 912-744-1634.

10-21 — *Amelia Island, FL: 4th Annual Critical Care & Emergency Medicine.* AMA Category 1, AAFP prescribed and CEP Category 1 credits. Contact Robert C. Fore, Ed.D., Mercer Univ. Sch. of Med., 777 Hemlock St., Macon 31201. PH: 912-744-1634.

13-25 — *Atlanta: Advanced Demonstrations in Percutaneous Transluminal Angioplasty XXVI.* Category 1 credit. Contact Office of CME, Emory Univ. Sch. of Med., 1440 Clifton Rd., Atlanta 30322. PH: 404-727-5695.

7-29 — *Atlanta: Gastroenterology for Primary Care Physicians.* Category 1 credit. Contact Div. of Cont. Ed., MCG, Augusta 30912-1400. PH: 404-721-067.

30-1 Oct. — *Atlanta: Quantitative Gallium Myocardial Tomography.* Category 1 credit. Contact Office of CME, Emory Univ. Sch. of Med., 1440 Clifton Rd., Atlanta 30322. PH: 404-727-5695.

30-4 Oct. — *Atlanta: Third ACCP National Critical Care Medical Exam Review Course.* Contact American College of Chest Physicians, 3300 Dundee Rd., Northbrook, IL 60062. PH: 708-98-1400.

OCTOBER

3-6 — *Atlanta: GA Chapter, American Academy of Pediatrics.* Contact William C. Mankin, 4059 Land O'Lakes Dr., Atlanta 30342. PH: 404-237-3922.

11-12 — *Hilton Head Island, SC: Cardiology for the Practicing Physician.* AMA Category 1 credit. Contact Georgia Heart Institute/University Hospital, 1350 Walton Way, Augusta 30910. PH: 404-826-8870.

14-16 — *Atlanta: American College of Clinical Pharmacology.* Contact J. M. Bertolet, 175 Stafford Ace, Ste. 1, Wayne, PA 18087. PH: 215-687-7711.

17-18 — *Atlanta: Toxicology Care.* AMA Category 1, AAFP prescribed credits. Contact Robert C. Fore, Ed.D., Mercer Univ. Sch. of Med., 777 Hemlock St., Macon 31201. PH: 912-744-1634.

17-20 — *Atlanta: Academy of Psychosomatic Medicine (38th).* Contact E. A. Hallberg, 5824 N. Magnolia, Chicago 60660. PH: 312-784-2025.

24-25 — *Atlanta: Women's Health Care.* Category 1 credit. Contact Office of CME, Emory Univ. Sch. of Med., 1440 Clifton Rd., Atlanta 30322. PH: 404-727-5695.

25-27 — *Atlanta: American College of Utilization Review Physicians.* Contact ACURP, Southbridge Park, Bldg 3, Suite 304, 1521 S. Tamiami Trail, Venice, FL 34292. PH: 813-497-3340.

28-29 — *Atlanta: TC-99M Myocardial Spect.* Category 1 credit. Contact Office of CME, Emory Univ. Sch. of Med., 1440 Clifton Rd., Atlanta 30322. PH: 404-727-5695.

NOVEMBER

7-9 — *Atlanta: GAFP 43rd Annual Scientific Assembly.* Contact Judy Rayburn, Director of Education, GAFP, 3760 LaVista Rd., Ste. 100, Tucker 30084. PH: 404-321-7445 or 800-392-5841.

10-14 — *Atlanta: American College of Preventive Medicine.* Contact ACPM, 1015 15th St., NW, Ste. 403, Washington, DC. PH: 202-789-0003.

10-14 — *Atlanta: Public Health and a National Health Program (119th).* Contact B. Entwistle, MPH, Dept of Human Services, Off. of Dental Health, State House Station #11, Augusta, ME 04333. PH: 207-289-2361.

16-19 — *Atlanta: SMA-MAG Scientific Assembly.* Category 1 credit. Contact Mandy Stone, SMA, Birmingham, AL. PH: 800-423-4992.

23-24 — *Atlanta: ASA Workshop on Transfusion Practices.* Contact Am Soc of Anesthesiologists, 515 Brusse Hwy, Park Ridge, IL 60068. PH: 708-825-5586.

23-24 — *Atlanta: Regional Anesthesia: Surgical, Obstetrics, & Pain.* Contact Office of CME, Emory Univ. Sch. of Med., 1440 Clifton Rd., Atlanta 30322. PH: 404-727-5695.

DECEMBER

9-11 — *Atlanta: Nuclear Medicine Update.* Category 1 credit. Contact Office of CME, Emory Univ. Sch. of Med., 1440 Clifton Rd., Atlanta 30322. PH: 404-727-5695.

RE: Medical Qualifications for Honorary and Crossbow Hunting Licenses

Dear Editor,

A problem is arising with physician certification for honorary and crossbow licenses issued by the Georgia State Game and Fish Commission. There has been a marked increase in the request in physician certifications for these licenses. Apparently a tremendous number of physicians do not understand what the requirements and qualifications are. I hope that I can clear this up so that the appropriate people do indeed get their licenses and that our patients who are not qualified can be informed accordingly.

The Department of Natural Resources (DNR) issues crossbow permits, and honorary hunting and fishing licenses, both of which re-

quire physicians to certify permanent disability. The honorary Hunting and Fishing license allows the handicapped to hunt or fish free of charge. The crossbow permit allows those archers who cannot effectively use a compound or regular bow the opportunity to hunt with a crossbow. Both of these licenses are much deserved benefits to Georgia's totally and permanently handicapped citizens who have limited opportunity to enjoy these outdoor recreational activities. However, there appears to be an increase in the issuance of these licenses to persons who have no apparent, or only limited, physical handicap.

The Honorary License requires that the applicant be permanently and totally disabled, based on the guidelines set forth for the total disability by the Veterans Administra-

tion. In the case of crossbow permits, the physician must certify that there is a PERMANENT disability to an extremity which would preclude the patient from using a regular compound bow. When undeserving citizens obtain these licenses DNR loses much needed revenue for programs which benefit the state's wildlife and citizens of Georgia. In addition, federal funds are lost because these revenues are allocated based on license sales.

As President of the Georgia Wildlife Federation, I would ask all physicians to ensure that those patients requesting certification of disability for obtaining either license have disabilities warrant the issuance of these licenses.

Sincerely yours
Paul C. Broun, M.D.
Family Practitioner
Americus

Of Youth and the Future — Of Attention

Charles R. Underwood, M.D.

“**T**here — my blessing with you!
And these few precepts in thy memory
See thou character. Give thy thoughts no tongue,
Nor any unproportion'd thought his act.
Be thou familiar, but by no means vulgar.
The friends thou hast, and their adoption tried,
Grapple them to thy soul with hoops of steel;
But do not dull thy palm with entertainment
Of each new-hatched, unfledged comrade. Beware
Of entrance to a quarrel; but being in,
Bear't that the opposed may beware of thee.
Give every man thine ear, but few thy voice:
Take each man's censure, but reserve thy judgement.
Costly thy habit as thy purse can buy,
But not expressed in fancy; rich, not gaudy:
For the apparel oft proclaims the man.
Neither a borrower nor a lender be,
For loan oft loses both itself and friend,
And borrowing dulls the edge of husbandry.
This above all: to thine own self be true,
And it must follow, as the night the day,

Thou cans't not then be false to any man.”

Polonius' advice to Laertes
Hamlet, WILLIAM SHAKESPEARE

IT IS OVER NOW, the first year that is. It seems barely possible to me, perhaps to him also. Frightening, I thought, that time, that our lives could pass from us with such rapidity. Of those years given to us, and most of them now behind, yet another is gone.

I had talked of his decision to enter medical school at an age somewhat advanced from that of his peers at another time on these pages. It had all begun on a fishing trip some 3 years ago. He had at the time graduated from a university, married, and was comfortably settled in a secure and financially rewarding position as an aeronautical engineer. His parents were proud. We sat, the two of us, on the edge of a motel swimming pool at the end of a day of father and son “togetherness,” as the day of fishing drew to a close. Secure relaxation and pride comforted me. Life had been good to us from many aspects. Thoughts of retirement crept quietly, insidiously, into conversation once filled only with talk of the practice. It was then that he said, “What would you do if I told you that I have decided to go to medical school?” The answer came from me without careful thought, “I would fall quietly into this swimming pool and drown myself.” The

determination, the carefully thought out decision was now made, however. The application, the MedCAT, the acceptance in the freshman class followed in smooth and expected order. So it was that he again became a freshman, this time at the Medical College of Georgia.

They came back home to us in the early summer this year. The young wife, the dachshund, and the “child” now grown to manhood. “How was it?”, I said with that degree of inquisitiveness born of love and nurtured by that ever-present craving to go back again, to re-live, perhaps to re-suffer, that now almost forgotten part of our lives when anatomy and physiology and such disciplines controlled every nook and cranny of our daily existence. “It took a lot of work, a lot of long nights,” he said.

There shall, of course, be other years to follow this first one. He did well, as his mother and I knew he would. Hanging over me, however, clouding the happiness and the pride, the security and the certainty of my days was that imponderable question, “Does he know, does she know, *really* know, what lies ahead?”

I brought down from the shelf in our library the dusty “day book” of my grandfather. I knew of him from the stories of my own father who drove the horse and buggy for him. Knew of the long days. The long nights. Knew of the hours sitting at the bedside in a house far down a dusty road as labor pains engulfed

his patient. I knew in particular of the monetary return for that labor of his own. There in his classical script, not passed on to this particular progeny of his, one found these entries:

"January 24, 1896 — for delivering twin children, \$15
 October 17, 1896 — for one obstetrical case, \$10
 November 28, 1896 — for one visit attention, \$2
 January 28, 1896 — credit by one cow, \$10
 December 3, 1896 — credit by wood, \$14
 October 22, 1896 — credit by grapes, \$2
 April 24, 1896 — one day's attention, \$2
 September 19, 1896 — credit by corn, \$7.25
 January 6, 1898 — for pulling tooth, \$1
 June 5, 1896 — Setting one broken arm, \$10
 July 31, 1897 — For one day's attention, \$2"

Here, then, was recorded the practice of medicine as it was known in the late 1890s. What, may we ask ourselves, has changed? Surely we have advanced technologically. We now transplant everything we have — our kidneys, our eyes, our lungs, our bones and joints, even our hearts. Have we not, we must ask ourselves, transplanted the pure heart of our chosen field? Have we not transplanted, or had transplanted for us, those values which made us a profession and not a business.

I kept going back to that word "attention" in my grandfather's day-book, for it seemed to dominate the vocabulary of this family physician. What, indeed, did he mean? Could it possibly be saying to us and our generation of physicians, to our son and the next generation, "Pay first of all your best 'attention' to your

patient. Not to the size of your practice nor the affluence or social prestige of those who populate it, not to the grandeur of your buggy nor the sheen of your horse — not to the gain or loss on your securities."

Granted persistence of those virtues which brought them to this benchmark in their lives, this medical student and the young wife, the virtues of persistence and toil not guaranteed of gain or return, the tolerance of loneliness, the certainty of self-reliance. Then they shall one day stand on the threshold of the greatest adventure, on the threshold of the House of Medicine. The first of many questions will be put to the young graduate, and it simply will be that of which specialty he will choose in which to confine their lives for the next many years. That choice upon which will balance future happiness and fulfillment will for the two of them resolve itself into two clear yet divergent choices. "Shall I spend the years ahead of me gathering the fruits of the orchard which provide me with maximal satisfaction and interest of work well done and suffering best relieved, or shall I choose that field of endeavor, that specialty, calculated to provide the maximal financial gain for the least effort expended?" To the shame of us all, those two questions will enter his mind, and hers, as I must say it entered the minds of some of us comprising the practicing physicians of today.

This young man shall live a far different life in his years as a doctor than has his father, and the distance in the economical and professional independence aspects of his life from his great-grandfather, who drove the horse and buggy, will be incomprehensible. His future will be filled with the likes of DRGs, RBRVS, PPOs, HMOs, and other such which spell out the feeble and staggering attempts of those of us who preceeded him to

care for the sick, the maimed, and the disabled in a manner leading to pride in our efforts, often our reward, as well as to recognition of our contemporary fellow human that we did so in an efficient and monetarily responsible manner. Have we been in any way successful in our efforts and stayed for a while the encroachment of straggling governmental conformity upon the natural humanity and creativity of us all? I must argue such a point for my great-grandfather who I believe would say to us that unless "attention" to those who trust their health and their lives to us become the driving force in our profession, lives then we shall surely fail.

I did not of course fall into the swimming pool and drown myself when the announcement was made on that day now but a relic in the memories of years past. I remained proud of him, and certain of the brave and supportive young wife, although at the same time concerned of their understanding of what lies ahead. That concern aside, I shall say to the two of them "You have chosen well.

No longer shall dullness and monotony plague your lives, Yet shall change and every existant mystery be your mistress.

Come join us, for we need your help.

Bring to us, to our profession, your youth, your strength, and your courage.

Bring to us your wisdom and your unshakeable integrity."

Perhaps were my name William — and that of my great-grandfather Shakespeare — then would I say to the two of them,

"This above all: to thine own self be true,

And it must follow as the night the day,

Thou cans't not then be false to any man."

FIRST GRADE TEACHER

*You wiped our drippy noses
And smiled our tears away.
You understood life's happiest sounds
Are children out at play.*

*You gave the most of knowledge
Our minds could comprehend.
You knew the first step forward was
The best one at the end.*

*You shared your lunch and laughter,
Or needed, stopped to scold.
We know so late the things you taught
Were more than books could hold.*

*You helped draw out our questions,
Our thoughts through hurried days —
And now they turn again to you
With hearts still full of praise!*

MOUNTAIN SCHOOL

*The soul of a school (like man's) is a valley draining
Hills of thought, the ultimate stream a blend.
The uppermost springs of joyous minds straining
For greater joy, rushing to their end
Past cragged disillusionments, over
Pebbled obstacles, turbulenced
Through crevices and bleak ravines to cover
This part of placid plains mountains have fenced.*

*The ultimate stream is slow and deep, blending
Murky valleyed water, emotion-stained,
Turmoiled by freshest force skies are sending
By way of rushing springs where hopes have rained.
They come as fresh as manna in their fall.
One need but see the valley's verdant sod
To know that here, the ultimate of all,
This stream shall surely rendezvous with God.*

JOHN RANSOM LEWIS, M.D.

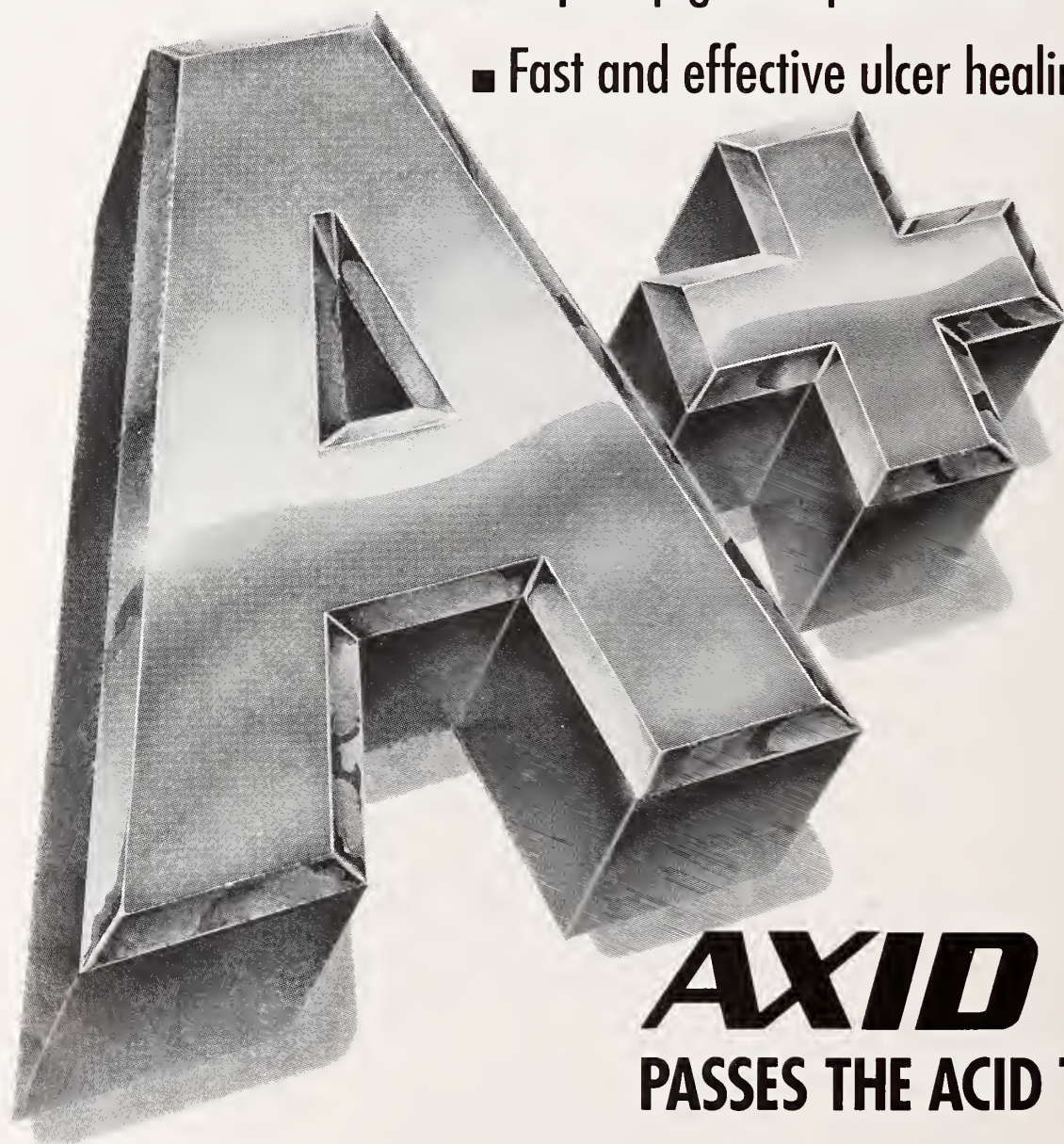
Dr. Lewis, a plastic surgeon in Atlanta, is Georgia's Poet Laureate.

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*Most patients experience pain relief with the first dose.
See adjacent page for references and brief summary
of prescribing information.

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Brief Summary. Consult the package insert for complete prescribing information.
Indications and Usage: 1. *Active duodenal ulcer*—for up to 8 weeks of treatment. Most patients heal within 4 weeks.

2. *Maintenance therapy*—for healed duodenal ulcer patients at a reduced dosage of 150 mg h.s. The consequences of therapy with Axid for longer than 1 year are not known.

Contraindications: Known hypersensitivity to the drug. Because cross sensitivity in this class of compounds has been observed, H₂-receptor antagonists, including Axid, should not be administered to patients with a history of hypersensitivity to other H₂-receptor antagonists.

Precautions: *General*—1. Symptomatic response to nizatidine therapy does not preclude the presence of gastric malignancy.

2. Dosage should be reduced in patients with moderate to severe renal insufficiency.

3. In patients with normal renal function and uncomplicated hepatic dysfunction, the disposition of nizatidine is similar to that in normal subjects.

Laboratory Tests—False-positive tests for urobilinogen with Multistix® may occur during therapy.

Drug Interactions—No interactions have been observed with theophylline, chlorazepoxide, lorazepam, lidocaine, phenytoin, and warfarin. Axid does not inhibit the cytochrome P-450 enzyme system; therefore, drug interactions mediated by inhibition of hepatic metabolism are not expected to occur. In patients given very high doses (3,900 mg) of aspirin daily, increased serum salicylate levels were seen when nizatidine, 150 mg b.i.d., was administered concurrently.

Carcinogenesis, Mutagenesis, Impairment of Fertility—A 2-year oral carcinogenicity study in rats with doses as high as 500 mg/kg/day (about 80 times the recommended daily therapeutic dose) showed no evidence of a carcinogenic effect. There was a dose-related increase in the density of enterochromaffin-like (ECL) cells in the gastric oxyntic mucosa. In a 2-year study in mice, there was no evidence of a carcinogenic effect in male mice, although hyperplastic nodules of the liver were increased in the high-dose males as compared with placebo. Female mice given the high dose of Axid (2,000 mg/kg/day, about 330 times the human dose) showed marginally statistically significant increases in hepatic carcinoma and hepatic nodular hyperplasia with no numerical increase seen in any of the other dose groups. The rate of hepatic carcinoma in the high-dose animals was within the historical control limits seen for the strain of mice used. The female mice were given a dose larger than the maximum tolerated dose, as indicated by excessive (30%) weight decrement as compared with concurrent controls and evidence of mild liver injury (transaminase elevations). The occurrence of a marginal finding at high dose only in animals given an excessive and somewhat hepatotoxic dose, with no evidence of a carcinogenic effect in rats, male mice, and female mice (given up to 360 mg/kg/day, about 60 times the human dose), and a negative mutagenicity battery are not considered evidence of a carcinogenic potential for Axid.

Axid was not mutagenic in a battery of tests performed to evaluate its potential genetic toxicity, including bacterial mutation tests, unscheduled DNA synthesis, sister chromatid exchange, mouse lymphoma assay, chromosome aberration tests, and a micronucleus test.

In a 2-generation, perinatal and postnatal fertility study in rats, doses of nizatidine up to 650 mg/kg/day produced no adverse effects on the reproductive performance of parental animals or their progeny.

Pregnancy—Teratogenic Effects—Pregnancy Category C—Oral reproduction studies in rats at doses up to 300 times the human dose and in Dutch Belted rabbits at doses up to 55 times the human dose revealed no evidence of impaired fertility or teratogenic effect; but, at a dose equivalent to 300 times the human dose, treated rabbits had abortions, decreased number of live fetuses, and depressed fetal weights. On intravenous administration to pregnant New Zealand White rabbits, nizatidine at 20 mg/kg produced cardiac enlargement, coarctation of the aortic arch, and cutaneous edema in 1 fetus, and at 50 mg/kg, it produced ventricular anomaly, distended abdomen, spina bifida, hydrocephaly, and enlarged heart in 1 fetus. There are, however, no adequate and well-controlled studies in pregnant women. It is also not known whether nizatidine can cause fetal harm when administered to a pregnant woman or can affect reproduction capacity. Nizatidine should be used during pregnancy only if the potential benefit justifies the potential risk to the fetus.

Nursing Mothers—Studies in lactating women have shown that 0.1% of an oral dose is secreted in human milk in proportion to plasma concentrations. Because of growth depression in pups reared by treated lactating rats, a decision should be made whether to discontinue nursing or the drug, taking into account the importance of the drug to the mother.

Pediatric Use—Safety and effectiveness in children have not been established.

Use in Elderly Patients—Healing rates in elderly patients were similar to those in younger age groups as were the rates of adverse events and laboratory test abnormalities. Age alone may not be an important factor in the disposition of nizatidine. Elderly patients may have reduced renal function.

Adverse Reactions: Clinical trials of varying durations included almost 5,000 patients. Among the more common adverse events in domestic placebo-controlled trials of over 1,900 nizatidine patients and over 1,300 on placebo, sweating (1% vs 0.2%), urticaria (0.5% vs <0.01%), and somnolence (2.4% vs 1.3%) were significantly more common with nizatidine. It was not possible to determine whether a variety of less common events were due to the drug.

Hepatic—Hepatocellular injury (elevated liver enzyme tests or alkaline phosphatase) possibly or probably related to nizatidine occurred in some patients. In some cases, there was marked elevation (>500 IU/L) in SGOT or SGPT and, in a single instance, SGPT was >2,000 IU/L. The incidence of elevated liver enzymes over 1 and elevations of up to 3 times the upper limit of normal, however, did not significantly differ from that in placebo patients. All abnormalities were reversible after discontinuation of Axid. Since market introduction, hepatitis and jaundice have been reported. Rare cases of cholestatic or mixed hepatocellular and cholestatic injury with jaundice have been reported with reversal of the abnormalities after discontinuation of Axid.

Cardiovascular—In clinical pharmacology studies, short episodes of asymptomatic ventricular tachycardia occurred in 2 individuals administered Axid and in 3 untreated subjects.

CNS—Rare cases of reversible mental confusion have been reported.

Endocrine—Clinical pharmacology studies and controlled clinical trials showed no evidence of antiandrogenic activity due to nizatidine. Impotence and decreased libido were reported with equal frequency by patients on nizatidine and those on placebo. Gynecomastia has been reported rarely.

Hematologic—Fatal thrombocytopenia was reported in a patient treated with nizatidine and another H₂-receptor antagonist. This patient had previously experienced thrombocytopenia while taking other drugs. Rare cases of thrombocytopenic purpura have been reported.

Integumental—Sweating and urticaria were reported significantly more frequently in nizatidine- than in placebo-treated patients. Rash and exfoliative dermatitis were also reported.

Hypersensitivity—As with other H₂-receptor antagonists, rare cases of anaphylaxis following nizatidine administration have been reported. Rare episodes of hypersensitivity reactions (eg, bronchospasm, laryngeal edema, rash, and eosinophilia) have been reported.

Other—Hyperuricemia unassociated with gout or nephrolithiasis was reported. Eosinophilia, fever, and nausea related to nizatidine have been reported.

Overdosage: Overdoses of Axid have been reported rarely. If overdosage occurs, activated charcoal, emesis, or lavage should be considered along with clinical monitoring and supportive therapy. Renal dialysis does not substantially increase clearance of nizatidine due to its large volume of distribution.

References

1. Data on file, Lilly Research Laboratories.
2. *Scand J Gastroenterol.* 1987;22(suppl 136):61-70.
3. *Scand J Gastroenterol.* 1987;22(suppl 136):47-55.
4. *Am J Gastroenterol.* 1989;84:769-774.

NZ-2943-B-149347

Additional information available to the profession on request.

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YOCON® YOHIMBINE HCl

Description: Yohimbine is a 3a-15a-20B-17a-hydroxy Yohimbine-16a-carboxylic acid methyl ester. The alkaloid is found in Rubaceae and related trees. Also in *Rauwolfia Serpentina* (L) Benth. Yohimbine is an indolalkylamine alkaloid with chemical similarity to reserpine. It is a crystalline powder, odorless. Each compressed tablet contains (1/12 gr.) 5.4 mg of Yohimbine Hydrochloride.

Action: Yohimbine blocks presynaptic alpha-2 adrenergic receptors. Its action on peripheral blood vessels resembles that of reserpine, though it is weaker and of short duration. Yohimbine's peripheral autonomic nervous system effect is to increase parasympathetic (cholinergic) and decrease sympathetic (adrenergic) activity. It is to be noted that in male sexual performance, erection is linked to cholinergic activity and to alpha-2 adrenergic blockade which may theoretically result in increased penile inflow, decreased penile outflow or both.

Yohimbine exerts a stimulating action on the mood and may increase anxiety. Such actions have not been adequately studied or related to dosage although they appear to require high doses of the drug. Yohimbine has a mild anti-diuretic action, probably via stimulation of hypothalamic centers and release of posterior pituitary hormone.

Reportedly, Yohimbine exerts no significant influence on cardiac stimulation and other effects mediated by B-adrenergic receptors, its effect on blood pressure, if any, would be to lower it; however no adequate studies are at hand to quantitate this effect in terms of Yohimbine dosage.

Indications: Yocon® is indicated as a sympathicolytic and mydriatic. It may have activity as an aphrodisiac.

Contraindications: Renal diseases, and patient's sensitive to the drug. In view of the limited and inadequate information at hand, no precise tabulation can be offered of additional contraindications.

Warning: Generally, this drug is not proposed for use in females and certainly must not be used during pregnancy. Neither is this drug proposed for use in pediatric, geriatric or cardio-renal patients with gastric or duodenal ulcer history. Nor should it be used in conjunction with mood-modifying drugs such as antidepressants, or in psychiatric patients in general.

Adverse Reactions: Yohimbine readily penetrates the (CNS) and produces a complex pattern of responses in lower doses than required to produce peripheral a-adrenergic blockade. These include, anti-diuresis, a general picture of central excitation including elevation of blood pressure and heart rate, increased motor activity, irritability and tremor. Sweating, nausea and vomiting are common after parenteral administration of the drug.^{1,2} Also dizziness, headache, skin flushing reported when used orally.^{1,3}

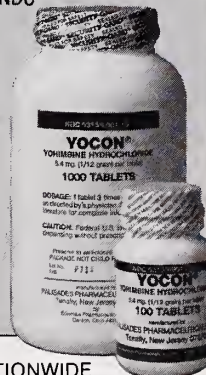
Dosage and Administration: Experimental dosage reported in treatment of erectile impotence.^{1,3,4} 1 tablet (5.4 mg) 3 times a day, to adult males taken orally. Occasional side effects reported with this dosage are nausea, dizziness or nervousness. In the event of side effects dosage to be reduced to 1/2 tablet 3 times a day, followed by gradual increases to 1 tablet 3 times a day. Reported therapy not more than 10 weeks.³

How Supplied: Oral tablets of Yocon® 1/12 gr. 5.4 mg in bottles of 100's NDC 53159-001-01 and 1000's NDC 53159-001-10.

References:

1. A. Morales et al., *New England Journal of Medicine*: 1221. November 12, 1981.
2. Goodman, Gilman — *The Pharmacological basis of Therapeutics* 6th ed., p. 176-188. McMillan December Rev. 1/85.
3. *Weekly Urological Clinical letter*, 27:2, July 4, 1983.
4. A. Morales et al., *The Journal of Urology* 128: 45-47, 1982.

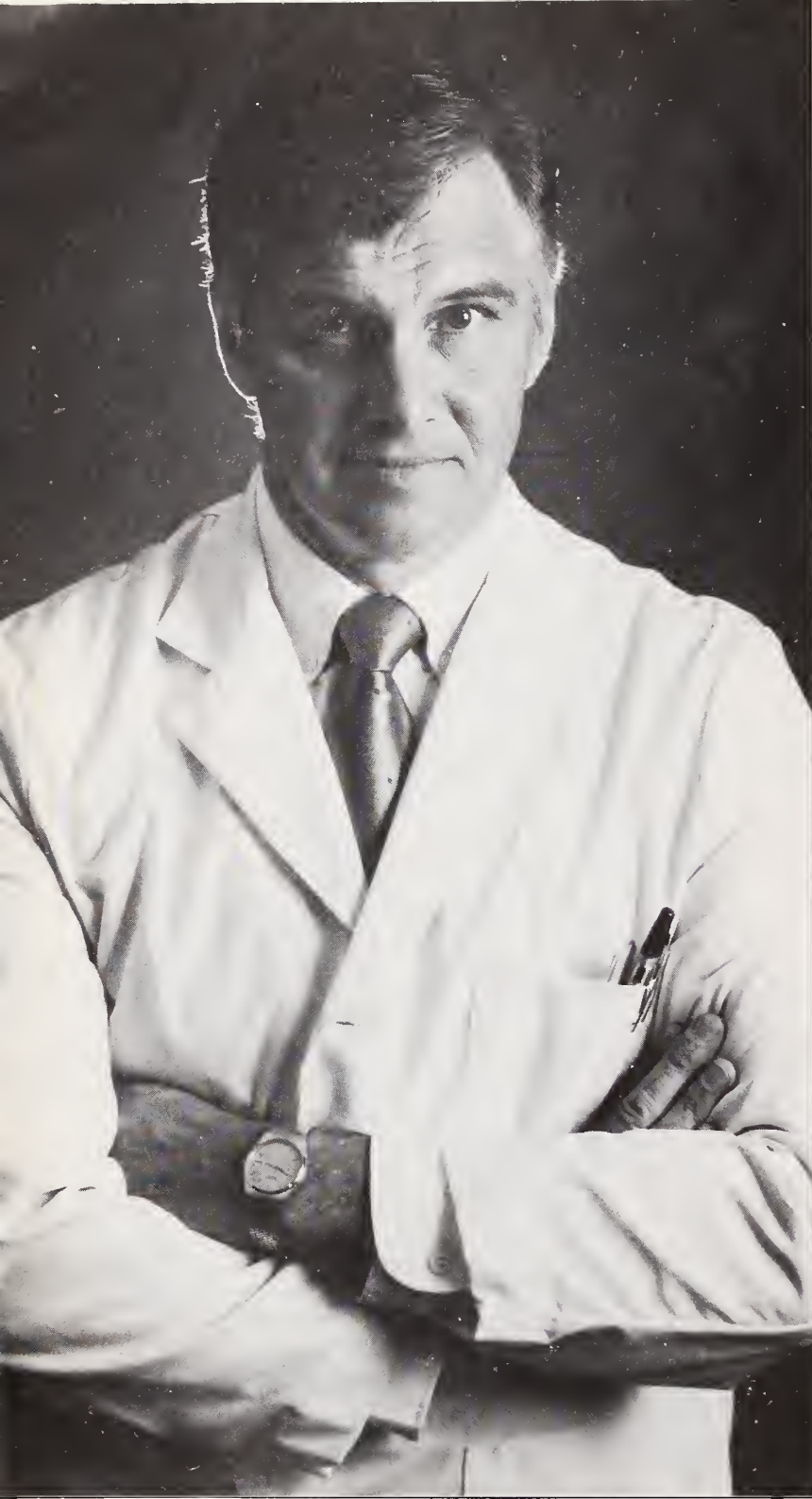
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The Data Bank: Why It Should Be Abolished

Miguel A. Faria, Jr., M.D.

IN 1986, CONGRESS enacted the National Health Care Quality Improvement Act which established the National Practitioners Data Bank. The Data Bank was supposed to keep track of physicians guilty of professional misconduct. Purportedly, it would improve health care and promote peer review activities.¹ The Data Bank became operational on September 1, 1990. Since that time, it has filed more than 12,000 pieces of information which there have been over 300,000 requests for information.²

As a Georgia physician (neurosurgeon), I believe the Data Bank should be abolished for the following reasons:

(1) The Data Bank is discriminatory. The medical profession today is the most scrutinized and regulated profession in America.^{3, 8} No other profession is subjected to such mandated blacklisting. We fear of misadventures in the legal profession, unethical conduct by politicians, businessmen, contractors. Yet there is no movement that opposes the establishment of a data bank to keep tabs on them. Doctors, who are listed in their own data bank, are suing because of the problem of gap in confidentiality.⁵ Moreover, the Data Bank is discriminatory within the profession itself because specialties such as orthopedics, General Surgery, Neurosurgery, and OB-Gyn are disproportionately affected because of the

‘In lieu of the Data Bank, we should encourage the Federation of State Boards to promote sharing of information between state licensing boards throughout the nation.’

high-risk nature of these specialties.

(2) The Data Bank violates the civil rights of physicians. We have very little recourse to redress our grievances. The Data Bank cannot guarantee that the information obtained will be used for its intended purpose or that such information will remain confidential. Since all 50 states have freedom of information acts, there is a potential for erroneous release of information which may result in deleterious effects upon the personal life and professional activities of a physician. In fact, this has already happened.⁶

Dr. Faria practices neurosurgery. He is Clinical Associate Professor of Surgery (Neurosurgery) at Mercer University School of Medicine, Macon; Alternate Delegate to the MAG House of Delegates from Bibb County; and former Chief of Staff, 1989, HCA Coliseum Medical Center, Macon. Send reprint requests to him at 310 Hospital Dr., Suite 315, Macon, GA 31201.

The Data Bank as it functions today is a violation of the constitutionally guaranteed due process of law for physicians. Disputed or inaccurate information can result in a permanent blot on the physician's reputation in an otherwise unblemished caring career. The Data Bank is government-mandated national blacklisting of physicians.

(3) The Data Bank will not improve health care nor will it encourage peer review. Physicians will be reluctant to participate in peer review, since their activities may result in the irretrievable loss of a colleague's reputation and perhaps even his or her livelihood.

(4) The Data Bank is inherently unfair for two reasons: First, maloccurrences prior to its implementation (even years before) are reportable. Second, some physicians are exempted such as those in VAH hospitals because the VA chose not to participate.¹

(5) The Data Bank will be detrimental to our patients. It will aggravate the adversarial climate in which we already practice medicine. It will encourage even more defensive medicine, subjecting our patients to unnecessary tests, thus resulting in even higher costs. When querying the Data Bank, hospital administrators do not get the information they need,⁷ and often the information that they do get is irrelevant. Yet, plaintiff's attorneys can query the Data Bank if they can

prove that the hospital has not complied with this act.⁴

Recently, I attended a medical staff meeting on the Data Bank. In that seminar, it was suggested that the Data Bank may "go away on its own because of the problem of logistics and expense."² This is not the case. Representative Ron Wyden, D-Oregon, who introduced the Health Care Quality Improvement Act of 1986, is already working with the support of none other than Inspector General Kussnerow to expand the activities of the Data Bank. If enacted, this expansion may include Medicare and Medicaid provisions.⁸ The possibility of Medicare sanctions being injected into the Data Bank would be a disaster, given the number of errors committed by Medicare bureaucrats in our own state, and given that the information in the Data Bank is irrevocable and permanent.^{1,4}

The AMA has proposed changes for the Data Bank. Unfortunately, these proposals are not sufficient to alleviate the potential damage to physicians. For example, a \$30,000 ceiling below which a malpractice settlement or judgment would not be reported. I know of no neurosurgical case that could be settled for this amount, regardless of how trivial the claim. Another AMA proposal is that of purging the Data Bank files every 5 years except for license revocation. Unfortunately, this proposal is not forthcoming, as the government is not budging on this issue.

‘The Data Bank as it currently functions is a violation of the constitutionally guaranteed due process for physicians.’

In fact, the onslaught continues. On May 16, 1991, *The Atlanta Journal* reported that Public Citizen Health Research Group*, an organization headed by Dr. Sidney Wolfe and founded by Ralph Nader, established "that only a small number of doctors are being disciplined . . . compared to the 150,000-300,000 Americans who are injured or killed each year in hospitals alone as a result of medical negligence." Among other things, this group is also advocating consumer access to the Data Bank purportedly to determine "how often a doctor is sued for malpractice." This is absurd. They want access to *all* privileged information on file. Unless we physicians stand up and fight for our rights, we will see the usurpation of whatever remains of our constitutional due process.

Yet, interestingly, *The Macon Telegraph* on May 26, 1991, reported, "the State Bar of Georgia officials say lawyers need some confidentiality to protect them against friv-

*This group has already published a list of doctors sanctioned in 40 states including Georgia. The list for 1990 is available for \$10.

olous complaints that could damage their reputations irretrievably." Apparently, they do not like the taste of their own medicine. Yet, many attorneys are members of the party forcing the injurious medicament down our throats.

I would support a simpler, fairer and perhaps even more cost effective solution: encourage the Federation of State Boards to promote sharing of information between state licensing boards throughout the nation as suggested by Dr. Jaffe.¹ If necessary, this provision may be mandated by Congress. Likewise hospitals may be mandated to query the state boards when credentialing new physicians or when recredentialing their staff.

I believe MAG should take the lead and strongly urge the AMA to push for abolition of the Data Bank while preserving quality health care in Georgia.

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Controlling Violence: A Retail Approach

Alfred A. Messer, M.D.

LISTEN TO A California highway patrolman after a rash of freeway shootings: "It used to be that people were satisfied to yell obscenities or make obscene gestures at a driver who frustrated them. Nowadays, they take out a pistol or shotgun and blast away."

Why are the obscenities no longer satisfying? Why the escalation from words to physical violence? Because the widespread and indiscriminate use of profanity has robbed these words of their force. Words have power and profane or dirty words have special power: they can substitute for violence.

At Fulton County Stadium, I heard a spectator, displeased with an umpire's call scream a lurid street obscenity. What does objection to a called third strike have to do with the ancient prohibition against incest? What would the man do if he were waiting in a post office line and someone inadvertently stepped ahead of him?

If we reclassify "dirty" words as profane, we begin to control expression of violence and inappropriate impulse. We become a safer society.

The Power of Profanity

Profane words have special power for two reasons: A child hears the terms during his or her early years and does not realize what they mean. But when the words are re-

Words have power, and profane or dirty words have special power: they can substitute for violence.

peated at home or at school — as part of normal experimentation with language — they evoke shock and rage in the elders.

Later, the child relates these terms to specific prohibitions that arise during growth and development. Examine any roster of dirty words and they are directly related to key points of discipline: prohibitions against excessive orality (eating and sucking); learning bowel control; inhibition of sexual curiosity; and rebellion against authority, including diety. (In acceptable slang, "gee whiz" was shorthand for "Jesus," "cripes" for "Christ" and World War II servicemen lamented about "snafu.")

The child naturally rebels against these interferences with his pleasures, and the limits are always tested. One way to achieve a sense of mastery over authority is to utter

an obscene word. Instead of violating the prohibition, and facing loss of love or punishment, there is relief of tension by using a word that symbolizes the forbidden act.

We can summarize four important clinical functions of profanity:

1. *As a Catharsis.* What is the first word out of your mouth when you discover you've locked your keys in the car? What does the salesman mutter after a customer calls and cancels an order because his (the customer's) son is going into that business?

The legendary master of cursing is the gunnery sergeant. All day long he has to instruct raw, occasionally bumbling, recruits. In his frustration with authority on the one hand, and his sense of discouragement with new recruits on the other, he finds relief in using profanity. (Kate Millet, one of the founders of the feminist movement, was always heralded as "cursing like an artillery sergeant.")

2. *A Safe Defiance.* Widespread and indiscriminate use of profane language erupted as part of the 1960s Vietnam War protests. Remember the placards held aloft proclaiming, "F... Nixon" and "To hell with Humper" (Hubert Humphrey). These phrases were shouted aloud as well.

The image of protesters jousting verbally with a speaker who scolds them is a replication of the child

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creating havoc by using four-letter words at home. There was distress at the political rallies, but words could substitute for outright violence, as well as expressing differences in generational values.

3. *The Alerting Function.* Use of profanity in public suggests society's ethical boundaries are being breached and should so alert the hearers.

In the 1,200-pages of Watergate testimony, when Nixon and his men were talking about bypassing certain prohibitions or unacceptable impulses — everything from paying hush money to granting clemency to convicted conspirators — the conversations were laced with profanities that were noted as "expletive deleted" in the text. Had the

inappropriate cursing alerted the President and his advisers that they were breaking the law, there might never have been a Watergate; their own inner inhibitions might have held sway.

4. *Verbal Dueling.* In some cultures, verbal dueling substitutes directly for fisticuffs. Among Turkish boys aged 10-14, there is a traditional form of ritual insult exchange which depends upon an individual's skill in remembering and selecting appropriate retorts to provocative insults. According to this ritual, young boys defend and assert their masculine standing and power in the peer group by proclaiming that their phallus threatens the anus of any rival who challenges them. Adolescent aggression

is discharged without physical harm.

As we reclassify "dirty" words as obscene once again, we reduce the expression of violence and inappropriate impulse. We provide healthier outlets for blowing off steam during moments of frustration, and we diminish unethical behavior.

A recent City Council ordinance in Quincy, Massachusetts, states: "No person shall accost or annoy persons or disturb the peace or letter or address another person with profane or obscene language." Violators are subject to a \$100 fine. Perhaps the ordinance is excessive, but the concept has merit. We need all the help we can get.

MRI UPDATE



Figure 1

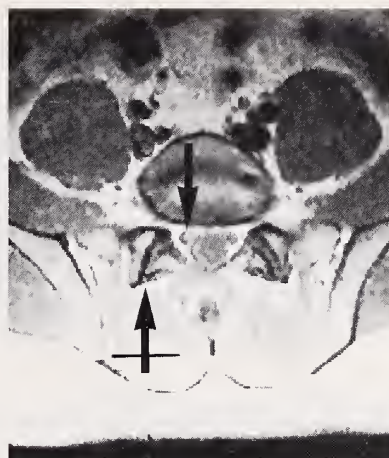


Figure 2

CLINICAL HISTORY: This is a 26-year-old male with back pain and right lower extremity radiation.

FINDINGS: This is an example of a normal study on a young adult. **COMMENT:** MRI is the screening test of first choice for suspected disorders of the lumbar spine. Notice the clear depiction of the normal L5-S1 disc (figure 1, crossed arrow). The discs of this patient exhibit high signal intensity reflecting normal hydration and none of the discs are narrowed. None of the discs indent the thecal sac which is of intermediate signal intensity and appears as the gray band

in the center of the image. The vertebral bodies are homogeneous and free of destructive lesions. The conus medullaris (arrow) is normal. This sagittal image demonstrates the advantages of MRI over other screening modalities. Routine CT scanning will not display the conus medullaris, lesions of which may masquerade as disc herniation. The general area of coverage is superior with MRI. Disc detail is much better displayed with MRI.

The axial image at L5-S1 (figure 2) exhibits delineation of intraspinal detail far superior to that of CT. The right S1 nerve root is clearly

displayed (arrow) surrounded by normal perineural fat which is the bright high intensity material in the periphery of the spinal canal. State-of-the-art MR images clearly display the bony anatomy of the lumbar spine including the facet joints (crossed arrow). Degenerative diseases and bony neoplasm are routinely detectable.

MRI involves no ionizing radiation and no intrathecal contrast material is needed. It is a patient-friendly outpatient examination well suited for screening purposes.



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MAG Slays the Dragon: The Saga of HealthCare COMPARE

Joseph P. Bailey, Jr., M.D., Cam Taylor, M.S.W.

ON JANUARY 1, 1989, the Health Care Financing Administration (HCFA), of the U.S. Department of Health and Human Services (HHS), initiated an experiment centering on the use of a private, for-profit company for Part B review of physicians' services. The company was HealthCare COMPARE (HCC), out of Downers Grove, Illinois. Also as part of this experiment, the carrier for Medicare in Georgia was changed from the Prudential Insurance Company to Aetna. What followed will go down in the history of medical care delivery in Georgia as one of the most massive bureaucratic foul-ups resulting in untold financial losses, not to mention emotional stresses, on physicians and patients throughout the state.

MAG was a major force in the events which ultimately led to slaying the dragon of HealthCare COMPARE. As of September 30, 1991, HealthCare Compare's contract with HCFA will be terminated. In this article, we endeavor to chronicle the events that took place as a matter of record.



"OPERATION DOCTOR STORM SUCCEEDS!" headlines the poster presented to Dr. Joe Bailey by MAG's Executive Director, Mr. Paul Shanor, commemorating the cancellation of HealthCare COMPARE's contract in Georgia. Dr. Bailey spearheaded MAG's efforts that led to that victory. The poster was presented at MAG's House of Delegates in Savannah last Spring at which Dr. Bill Collins (center) presided as President.

One of the first things HCC, a company with little experience in outpatient services of the elderly, did was to issue new guidelines for utilization review — without physician input or even physician knowledge. The guidelines limited comprehensive evaluations to once in a patient's lifetime. Thwarting state law (with the approval of HCFA), which requires visits to skilled care nursing homes

at least once a month, HCC developed guidelines for less frequent visits.

In the meantime, Aetna had moved its headquarters for the Georgia program from Atlanta to Sa-

Dr. Bailey, a rheumatologist in Augusta and Past President of MAG, spearheaded MAG's protracted fight against Aetna and HealthCare COMPARE; Ms. Taylor, MAG's Director of Medical Practice, also contributed substantially to MAG's success.

After more than 2 years of an ignoble experiment, HealthCare COMPARE will leave Georgia at the end of this month when the Health Care Financing Administration terminates the contract.

vannah and hired new inexperienced employees. By the spring of 1989, there were over 800,000 unprocessed claims in AEtna's Savannah office. HCFA and AEtna justified many of their actions by accusing physicians in Georgia of having performed excessive numbers of comprehensive evaluations. This was subsequently disproven by both the General Accounting Office and the Inspector General's office after MAG demanded both offices examine the outrageous claims.

The Medical Association of Georgia became involved in a major way — devoting much of its resources to correcting this situation. This led to a 2 ½ year-effort in a quest for just and reasonable treatment of Medicare patients and their physicians. Several meetings were initially held with Louis B. Hayes, Acting Administrator of HCFA, Ms. Barbara Cagle, Operations Chief of HCFA, and H.H.S. Secretary Louis Sullivan, M.D.

Perhaps the most pivotal event was a hearing of the Georgia Congressional Delegation in Washington, D.C., with Louis Hayes. Congressman J. Roy Rowland was a major force in supporting the people of Georgia. Others who spearheaded congressional pressure in-

cluded Congressman Lindsey Thomas, Congressman Richard Ray, and Senator Sam Nunn. In fact, the entire Georgia Congressional Delegation came to the fore and demonstrated real and substantive help. These included: Senator Wyche Fowler, and Congressmen Charles Hatcher, Ben Jones, John Lewis, Newt Gingrich, George "Buddy" Darden, Ed Jenkins, and Douglas Barnard, Jr.

As a result of this hearing, monthly meetings were held in Georgia between AEtna, HealthCare COMPARE, HCFA, and MAG. Subsequently, the American Society of Internal Medicine, the American College of Physicians, the Georgia Academy of Family Physicians, and the Georgia Medical Group Managers Association also attended these monthly meetings in an effort to improve communication and correct administrative problems.

The American Medical Association responded with help from their legal section under the direction of Kirk Johnson, their legislative section with Rich Deem in Washington, and Janet Horan. Dr. John Ring and Dr. James Todd as well as the members of the Board of Directors also assisted in these efforts.

Another important event was the convening of U.S. Congressman Henry Waxman's Subcommittee on Health and Environment in Atlanta. Testimony was presented to this committee about the Medicare crisis. Further testimony was given in Atlanta at the Advisory Council on Social Security Hearings. Four regional congressional hearings in Georgia were eventually held, with public testimony overwhelmingly against the Medicare program in Georgia. In each meeting, the focus of dissatisfaction was HCC. Repeatedly, it was requested that the contract with this agency not be renewed.

In the spring of 1990, MAG charged AEtna with erroneous pricing profiles. AEtna responded that Georgia physicians had overpriced certain procedures and demanded that they repay over \$2.1 million that they had been overpaid. Through MAG's efforts, and using information provided by MAG and the Georgia Society of Ophthalmology, Georgia physicians were unanimously found innocent by HCFA, paid hearing officers and AEtna. HCC, and HCFA were found to be wrong. HCFA repaid the physician all the money they had wrongfully confiscated.

Another issue had to do with payment for laboratory procedures. At one point, AEtna imposed a 20% reduction rather than the 2% required by law. Subsequently, the error was corrected and repayment of the deficit was made as demanded by MAG.

One of the central themes throughout this period was the go-

Combating the effects of HealthCare COMPARE has involved at least six congressional hearings in the state including a major hearing with U.S. Congressman Henry Waxman, AMA resolutions and actions within at least two annual meetings, and numerous negotiations with AEtna and HCFA regional and Washington offices.

ernment's increasing demand for more documentation for the services provided to defend the medical necessity for the services, etc. On the surface, these sounded like laudable tenets. However, since lengthy documentation became the rule, and since downcoding appeared to occur regardless of whether the paperwork was provided, it became obvious that cutting costs was the overriding factor to HCFA.

This fight to sustain the position of the physician in the care of patients has been of value and has resulted in several significant changes: first and foremost is the termination of the HCC contract; second, is the reasonable interpretation of policy with regard to billing for cross-coverage that was a result of Congressman J. Roy Rowland's "anti-hassle" bill passed in 1990; and third, the strengthened

role and voice of the Medical Association of Georgia in all Part B Medicare affairs.

This experience has also taught us several lessons. One is that physicians in Georgia perform similarly to those in the remainder of our country. Another is that in order to influence such large government programs as Medicare, physicians must speak through the single voice offered by their state and national medical associations. We have seen the value of our cooperative efforts with specialty organizations as well. The combined efforts of the American College of Physicians, the American Society of Internal Medicine, the Georgia Academy of Family Physicians, and MAG were extremely effective. Still another lesson was that our patients are a highly effective force when dealing with government. Thousands of patients' calls and letters convinced many congressmen that this was not

just a doctor issue.

Our work doesn't end here. The advent of RBRVS is upon us. With it will come an immediate need for education of our members about the new rules and major efforts directed at compliance and alteration of these rules when and where possible. This will be an even greater battle than what we have already faced.

There is always a group of people who go unsung and represent the driving force in many medical issues in our state. At the Medical Association of Georgia, that force is a highly educated, hardworking, and loyal staff. Without their support, much of this favorable change regarding HCC would never have occurred.

Finally, and with reference to the generic negative influence of this world: *Non-Teum Illigitimos Carborundum.*

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The Use of Long-acting Drugs in the Treatment of Rheumatoid Arthritis

Frederic C. McDuffie, M.D.

THE INTRODUCTION of parenteral gold for the treatment of rheumatoid arthritis in the early 1930s by Forestier¹ gave rise to the concept of disease-modifying drugs for the treatment of this disease. Such drugs are characterized by slow onset of action, sometimes months, and often profound suppression of disease manifestations. The introduction of corticosteroids in the late 1940s and early 1950s gave immediate promise of totally effective therapy of this disease, but it soon became clear that results were less than optimum and that long-term side effects were often more serious than the disease itself. The long-acting drugs offered a way to help physicians and their patients reduce or eliminate corticosteroids from the treatment programs.

As long acting drugs besides gold became available in the 1950s and 1960s, the pyramidal concept of the treatment of rheumatoid arthritis became formalized as a guide to patient management. In its essence, this approach was based on

Although most of the long-acting drugs offer relatively short-term (up to 3 years) benefits, with the probable exception of methotrexate, nonetheless they can offer for a period of time improved function and relief of pain.

the rationale of proceeding from the less effective, less toxic drugs to the more effective, more toxic drugs (Figure 1). The pyramid became widely accepted, because it meant that the more potent and toxic drugs were reserved for those who needed them the most, and reactions, when they occurred, could be forgiven

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because of the desperate need of such patients for the need of relief. It has now become apparent that these drugs are actually given for relatively short periods of time (approximately 3 years) because of the cumulative effects of toxicity and lack of efficacy with continued use. Figure 2² demonstrates that at the end of 3 years, only a small proportion of individuals begun on such drugs continue to take them. Other studies on the long-term results of treatment of rheumatoid arthritis indicate that although in the early years of treatment improvement in functional class commonly occurs (some of this due to surgery), the late results in individuals with well established rheumatoid arthritis are disappointing. Many rheumatologists now believe that long-acting drugs should be used earlier in patients with less severe disease than formerly because they may be more effective then and mitigate some of the effects of long-term inflammation. Wilske and Healey³ introduced the concept of

the reverse pyramid. These physicians employ an intensive therapeutic regime including: corticosteroids, hydroxychloroquine, gold salts, and methotrexate given within the first 3 to 6 months of onset of rheumatoid arthritis to patients who do not respond to simple therapy. Once the process is under control, they discontinue the individual elements of this program, watching for flares of disease. Whether this approach will yield better long-term results without producing unacceptable toxicity is at present a matter of speculation. Because of the need for many years of careful follow-up plus the vagaries of the disease, it is unlikely that the effectiveness of such a regimen will ever be known unless it turns out to be dramatically successful over a relatively short period (3-5 years).

Many rheumatologists now believe that long-acting drugs should be used earlier in patients with less severe disease than formerly, because they may be more effective then and mitigate some of the effects of long-term inflammation.

Individual Agents

Because the most serious side effects of these long-acting drugs are relatively predictable, the practice of monitoring individuals taking them at regular intervals to detect the first signs of toxicity has become universally practiced and appears in the recommendations in

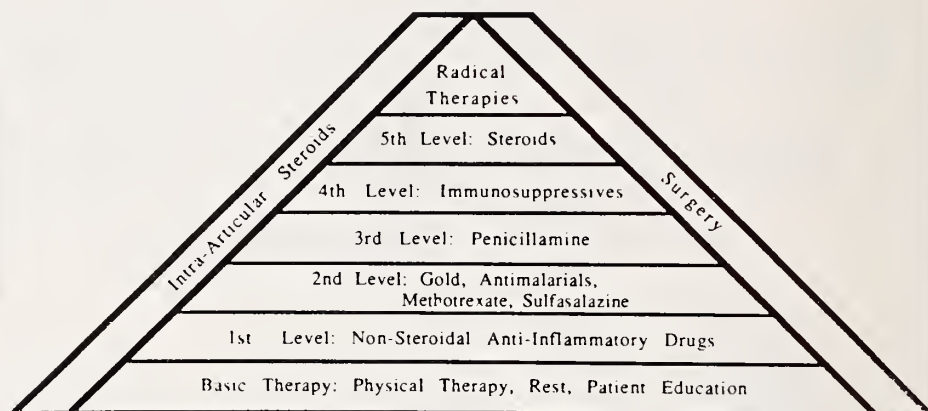


Figure 1 — The Therapeutic Pyramid (from Lightfoot, R.W. in *Arthritis and Allied Conditions* by D.J. McCarty) Lea and Febiger 1989 page 772.

the packaged inserts accompanying these drugs. Monitoring is based on identification of the most common serious reactions and following the best indicator at regular intervals: for example, the platelet count in patients taking penicillamine and the fundoscopic and visual field examinations in patients taking anti-malarials. The frequency of monitoring is somewhat arbitrary. Many reactions, such as agranulocytosis from sulfasalazine, tend to occur early in the course so that frequency of checking white blood cell counts can be decreased over a period of time. Others, such as proteinuria from gold therapy, may often be delayed so that regular urinalyses need to be carried out indefinitely. Table 1 shows the monitoring practices followed by our arthritis unit at Piedmont Hospital.

Anti-malarials

Reports of the beneficial effect of the anti-malarial drugs in rheumatic diseases appeared as early as 1894 and subsequently in 1928. However, the modern era began in 1951 with the observations of Page⁴ on their effectiveness in lupus. A number of well conducted double-blind studies in patients with rheumatoid arthritis have shown a re-

sponse rate of about 50-75%, as compared to placebo responses of 30%. A general clinical impression exists that anti-malarials are most effective in relatively early disease and are not worth using after 5 or 10 years of inflammation. Nonetheless, the comparative studies which have been performed show about equal effectiveness of chloroquine and hydroxychloroquine with the other long-acting drugs.⁵ The primary toxicity of chloroquine and its derivatives is on the rods and cones in the macular area of the fundus, leading to loss of central vision. This effect appears to be much less with hydroxychloroquine. On the other hand, comparison of studies carried out with chloroquine and hydroxychloroquine suggest that chloroquine is a more effective drug.⁶ Nonetheless, hydroxychloroquine has pretty much replaced chloroquine in current usage. Monitoring is best carried out with fundoscopic and field examination at 6-month intervals. Most rheumatologists, including me, have never seen a case of ocular damage due to hydroxychloroquine. The onset of action of these drugs is usually slow (2 to 3 months), and after a response occurs it is my practice to reduce the dose of the drug from time to time to be sure it is still effective.

Table 1 — Monitoring of Long-acting Drugs for Rheumatoid Arthritis

<i>Drug</i>	<i>Major Side Effects</i>	<i>Monitor</i>	<i>Frequency</i>
Hydroxychloroquine (Plaquenil)	Retinopathy	Ophthalmologic examination	6 months
Sulfasalazine (Azulfidine)	Nausea Granulocytopenia Hepatitis	None CBC Liver function tests	None (2, 4, 8, 12 wks then every 3 months)
Gold (Intramuscular)	Dermatitis Thrombocytopenia Marrow aplasia Nephropathy	Question, inspect CBC CBC Urinalysis	(Before each injection)
Gold (Auranofin)	Dermatitis Loose stools Thrombocytopenia Marrow aplasia Nephropathy	Question, inspect Question CBC CBC Urinalysis	Monthly Monthly Monthly Monthly Monthly
Penicillamine (Cuprimine, Depen)	Lupus-reaction Thrombocytopenia Marrow aplasia Nephropathy	Question, inspect CBC CBC Urinalysis	1-3 months (2 wks for 6 wks, then monthly)
Azathioprine (Imuran)	Marrow suppression (especially granulocytes)	CBC	(2 wks for 6 wks, then monthly)
	Hepatitis Lymphoma	Liver function Question, inspect	Monthly Each visit
Methotrexate (Rheumatrex)	Bronchitis/pneumonitis Nausea Gastroenteritis Marrow suppression Cirrhosis of liver	Question, inspect Question Question CBC Liver function tests	Each visit Each visit Each visit Each visit (2 wks for 6 wks, then monthly)
Cyclophosphamide (Cytosan)	Marrow suppression (especially granulocytes) Hemorrhagic cystitis Bladder cancer Lymphoma, infections (especially herpes zoster, gastroenteritis)	CBC Question, Urinalysis Question Inspection	(2 wks for 6 wks, then monthly) Each visit Each visit Each visit

Sulfasalazine

This drug was initially introduced by Nana Svartz for rheumatoid arthritis in the 1940s.⁷ She had the idea of combining a salicylate and a sulfonamide to create a single drug designed to have the anti-inflammatory effect of salicylates plus the antimicrobial effect of sulfonamides. She hypothesized that an unknown bacterial infection was initiating or contributing to the inflammatory process of rheumatoid disease. The initial studies were imperfect, and the drug never caught on because it was thought that it

was too toxic and not sufficiently effective. However, it was then picked up by gastroenterologists and used successfully for chronic ulcerative colitis. In the late 1970s, McConkey and his associates in Britain revived sulfasalazine and demonstrated its effectiveness in rheumatoid arthritis.⁸ Subsequently, other authors have used it with benefit in the treatment of ankylosing spondylitis.⁹ It does turn out that the sulfonamide rather than the salicylate portion is the effective one.¹⁰ The amount of salicylate absorbed from sulfasalazine is well

below an effective dose. The major side effect, aside from nausea (reduced by the introduction of enteric coated tablets), is agranulocytosis which usually occurs fairly early. It is our practice to check the complete blood count every 2 weeks for a period of 2 months and then monthly. Liver function tests are also monitored monthly. Because of the nausea problem, the drug is given in increasing dosage usually starting with 0.5 gram tablets twice a day and increasing by one tablet a week until a final dose of 2-3 grams a day is reached.

Gold Salts

As already stated, intramuscular gold was introduced in the 1930s by Forestier.¹ This pioneering French rheumatologist subsequently made another important contribution with his description of disseminated idiopathic spinal hyperostosis (DISH), sometimes known as Forestier's disease. The early preparations were somewhat unstable but stable preparations became available in the 1940s. Initial reports of liver toxicity appear to have been the result of the introduction of Hepatitis B virus by the needles employed. In the 1950s, a well controlled study by the British Empire Rheumatism Council conclusively demonstrated the effectiveness of gold¹¹ and led to marked increase in its use. Gold is often very slow to act, sometimes taking as long as 4-5 months to be maximally effective. The mechanism of action remains unknown but there is good evidence that it inhibits macrophage/lymphocyte interaction and function.¹² The three major toxic effects are proteinuria due to immune deposit glomerulitis, pruritic dermatitis which may become widespread, and thrombocytopenia. Rarely bone marrow aplasia may occur. All of these effects are reversible if identified early by proper monitoring. Deaths, however, have occurred from bone marrow aplasia in patients who could not be supported a sufficiently long period to allow the bone marrow to recover. Forty years ago, sulfhydryl compounds such as British Anti-lewisite (BAL) were sometimes employed to treat gold induced toxicity, but the toxicity of this drug itself and the responsiveness of some of the side effects to corticosteroids have almost eliminated their use today. In the 1980s, an oral gold preparation, auranofin, was introduced which is similar in action but less toxic.¹³ On the other hand, the drug appears to be somewhat less effective than intramus-

cular gold. Thus, it has not been widely used because patients must be monitored similarly to those receiving injections and yet have less likelihood of benefit. It may inhibit reabsorption of water from the colon sometimes resulting in loose stools.

Penicillamine

This sulfhydryl agent was introduced by Israel Jaffe in the 1960s as a result of in vitro studies showing its dissociative effect on IgM rheumatoid factors.¹⁴ However, although administration of the drug does produce declines in rheumatoid factor levels, these occur much more slowly than one would expect from simple dissociation. Also the clinical response which frequently accompanies this decline is slow to occur, so another mechanism, yet undefined, is probably taking place. The toxicity of penicillamine is very similar to that of gold, primarily proteinuria and thrombocytopenia. A lupus-like syndrome has been reported not only in patients taking penicillamine for rheumatoid arthritis but also for other indications such as Wilson's Disease. It is generally thought by rheumatologists that penicillamine is less effective than gold. Until the introduction of methotrexate, it was usually reserved for treatment of patients who had failed to improve or who had lost their improvement from gold therapy. In spite of the

similarity of toxicity of penicillamine to that of gold, prior gold toxicity does not increase the risk of toxicity to penicillamine.¹⁵

Methotrexate

Methotrexate probably represents the greatest advance in long acting drug therapy since the introduction of gold. Presumably, it acts by inhibition of the enzyme, folate reductase, which plays a crucial role in synthesis of DNA. It is faster acting than the drugs already discussed, initial improvement commonly appearing in 4-6 weeks though maximum benefit usually takes longer, shown in Figure 3.¹ Also, the clinical benefits of methotrexate last longer than those of the other drugs. Many patients have taken methotrexate with continued effectiveness for 6 years or more.¹ The drug was originally introduced for treatment of childhood leukemia. Subsequently it was found to be effective in psoriasis and psoriatic arthritis. The doses employed in rheumatoid arthritis are well below those used in the treatment of malignancy and usually less than those found to be effective in psoriasis. At low dose (7.5-15 milligrams weekly) the major side effects are: nausea, bone marrow suppression, mouth ulcers, bronchitis/pneumonitis, and hair loss. The addition of folic acid to the treatment regimen may reduce the likelihood of toxicity without af-

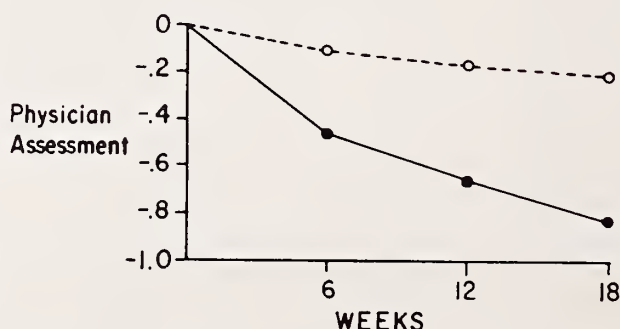


Figure 2 — Treatment termination for three long acting drugs for rheumatoid arthritis.² × gold; ● penicillamine; ○ sulfasalazine.

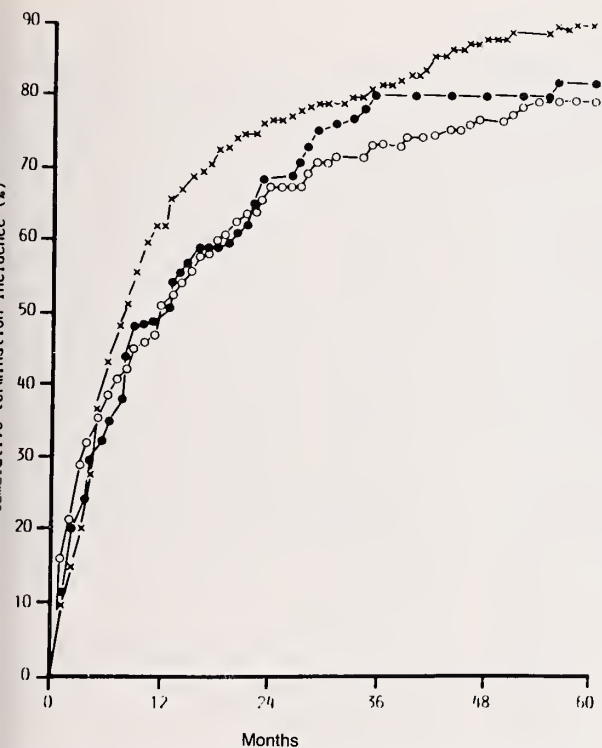


Figure 3 — Time course of response to methotrexate in rheumatoid arthritis.¹⁶ --○--○-- placebo; --●--●-- methotrexate.

ecting its clinical benefit.¹⁸ It is my current practice to add folic acid, 1 mg a day, to my methotrexate regimen.

A major concern has been the risk of cirrhosis of the liver. Initially, individuals receiving methotrexate had liver biopsies before treatment and at 2-year intervals. Now that longer term studies have been carried out, it appears that cirrhosis is extremely rare in patients who limit their use of alcohol so that biopsies are no longer performed. Unfortunately, liver function tests do not necessarily indicate the development of liver damage but they are routinely included in monitoring. Probably the most serious side effect is a bronchitis/pneumonitis which can be severe and even fatal. Its frequency is approximately 5% in patients with rheumatoid arthritis treated with 7.5 to 2.0 mg a week.¹⁹ During the winter when bronchitis and other lower respiratory infections are frequent, it is often necessary to discontinue methotrexate temporarily to be sure that the symptoms do not indicate

the onset of methotrexate induced pneumonia. The nausea that sometimes accompanies the use of oral tablets can be reduced by spacing out the tablets, giving half tablets (1.25 milligram) or by parenteral injection. Patients can be taught to give their own injections subcutaneously, much as in diabetes. The cost of parenteral methotrexate, which is available in a generic form, is considerably less than that of the trade name brand which has risen scandalously since its effectiveness in rheumatoid arthritis was first conclusively shown, following which the drug was marketed as Rheumatrex. Some rheumatologists advise their patients to take the generic parenteral form by mouth after mixing it with orange juice or some other liquid vehicle, but a lower cost tablet is now available.

Azathioprine

This analog of 6-mercaptopurine inhibits the synthesis of DNA and presumably has an effect comparable to that of methotrexate. A

number of studies have demonstrated its effectiveness in rheumatoid arthritis,⁵ although there is a general feeling by rheumatologists that it is not as effective as methotrexate. Since it does inhibit mitoses of rapidly dividing cells it has prominent effects on the bone marrow, sperm, ovaries and integument. There is an increased frequency of non-Hodgkin's lymphoma in patients taking this drug after renal transplant. There is some evidence that the frequency of non-Hodgkin's lymphoma may be increased in patients with rheumatoid arthritis not taking cytotoxic drugs.²⁰ Although no reliable comparative studies have been performed, it is unlikely that there is any synergistic effect resulting in a higher frequency lymphoma in rheumatoid arthritis than one would expect from this drug in other diseases. Nonetheless, it is my experience that most patients when advised of this risk, low as it is, refuse to take the drug. It is currently being studied as an adjunct to other long acting drugs in combination regimens.²¹

Cyclophosphamide

This potent inhibitor of DNA synthesis is generally considered the most effective drug available for treatment for rheumatoid arthritis, but is seldom used because of its well established toxicity on bone marrow, integument and bladder, as well as, the frequency of cancer of the bladder and development of non-Hodgkin's lymphoma. It is more widely used in treatment of systemic lupus, particularly individuals with progressive renal disease or cerebral involvement. There is some evidence that the risk of lymphoma can be reduced by giving the drug intravenously in pulse fashion.²² However, this approach does not seem to be as effective in rheumatoid arthritis. It is mainly used in this disease by oral route in treatment of individuals with the systemic vasculitis that may ac-

company severe rheumatoid arthritis or in very severe rheumatoid arthritis not responsive to other drugs.

Cyclosporine

Although widely used in patients receiving organ homografts, because of its well established effectiveness in reducing rejection reactions, it is not yet been approved by the FDA for the treatment of rheumatoid arthritis. Nonetheless, initial reports, of which there are now several²³ indicate that low dose cyclosporine (2.5-5.0 milligrams per kilogram) is effective in patients who have failed to respond to other drugs. Its primary side effect is reduction of renal blood flow because of an effect on the afferent arterioles. This results in decreased renal perfusion and hypertension, thus it is necessary to follow the serum creatinine and blood pressure carefully in such patients. Mild hypertension may be controlled with anti-hypertensive therapy. Permanent renal damage does not appear to be a risk if the drug is stopped in time. Other side effects are primarily neurological-tremor, paresthesias, headache, and rarely convulsions. It is the most costly of the long-acting drugs, and since its use in rheumatoid arthritis is not FDA approved, there may be a difficulty in getting coverage from third party payors. Formerly it was administered in a liquid form that had to be pipetted and administered with orange juice or some other vehicle. Capsules are now available that have made administration easier.

Combination Therapy

Because of the unsatisfactory long-term results of all of these drugs, current interest by investigators in this field is on the use of various combinations. This approach has been borrowed from the cancer chemotherapists in an effort to provide greater effectiveness with

lower risk by combining therapeutic drugs presumably having different modes of action. Since the modes of action of all of these drugs in rheumatoid arthritis are unknown, one can only hypothesize that combinations may be more effective than single drugs. D. J. McCarty and Carrera²⁴ used a combination of hydroxychloroquine, azathioprine, and cyclophosphamide in patients who had failed to respond to other drugs in the hope of reducing side effects yet maintaining effectiveness. However, the toxicity of this particular combination was too high and eventually had to be abandoned.²⁵ Some combinations appear to be less effective than the drugs used singly. Bunch and his colleagues at the Mayo Clinic showed that when hydroxychloroquine was combined with penicillamine, the two drugs were less effective than either one given alone.²⁶ Perhaps, the most promising combination is the combined use of penicillamine and gold. In a small study involving 24 patients by Bitter²⁷ "remissions" were achieved in one-third of those receiving the combined regimen and none of those receiving gold alone. Inflammatory joint scores likewise improved more significantly in the combined therapy group. It has been my practice recently to add penicillamine to the regimens of patients who are no longer responding to gold therapy, with a few encouraging results.

Summary

Experience to date strongly indicates that long-acting drugs currently used in treatment of rheumatoid arthritis are very potent anti-inflammatory agents which act in most cases by completely unknown mechanisms. All of them have built in but recognizable toxicity which can usually be prevented by appropriate monitoring. Although most of them offer relatively short term (up to 3 years) benefits, with the

probable exception of methotrexate, nonetheless they can offer for a period of time improved function and relief of pain for many individuals. Thus, even though they do not dramatically affect the long-range outcome of the disease, they continue to offer useful benefit for patients with rheumatoid arthritis who are not responding to conservative therapy. Some of the long-acting agents are only slightly more toxic than the widely nonsteroidal anti-inflammatory drugs which do have a definite risk of serious upper gastrointestinal bleeding.²⁸ Currently the use of combinations as well as the continued introduction of new drugs in this class, offer hope that greater benefit than we can currently provide is within reach over the next few years.

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Closing the Doors or Selling Your Practice: Options to Consider

Gary Matthews

WHILE EARLY RETIREMENT planning helps ensure personal and financial comfort, some physicians — by choice or by circumstance — may face retirement without having planned for it. When this happens, most physicians simply choose to close their practice doors. However, there are other alternatives that may be more personally and financially beneficial. Each of these options has its own set of advantages and disadvantages and should be given equal consideration to closing the practice doors.

Selling Your Practice

Although selling a medical practice at retirement can take its toll on one's patience and ego, the financial rewards of selling can handsomely augment one's retirement income.

If you decide to sell your practice, your first step will be to have your practice appraised to determine its fair market value. This is most effectively done by an objective, third party person who can

Selling a practice off in segments can sometimes be easier for the seller than selling an entire practice and is almost always more cost-effective for the purchaser.

evaluate your practice with no emotional ties. Practice appraisals are often performed by practice management consultants who can also help find potential buyers and negotiate sales if necessary. Practice management consultants who are experienced in practice appraisals can be found through word-of-mouth, through local or state med-

ical associations, or through classified advertisements in a variety of professional publications such as the *Journal of the MAG*, *Medical Economics*, or *Group Practice Journal*. When contracting with a practice management consultant, it is important to be sure that no conflict of interest exists with other physician groups or medical facilities the consultant may be representing at the same time. It is imperative that he or she have your best interest at heart. Practice management consultants generally charge between \$3,000 and \$5,000 to perform a practice appraisal, depending on the complexity of the practice.

The value of your medical practice is determined by three elements: 1) Hard assets, 2) Accounts receivable, and 3) Goodwill. Hard assets include such items as equipment, furniture, and/or medications and are appraised according to current value. Accounts receivable are valued based on a determination of their collectability and whether they will be sold to the buyer or if the

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seller plans to collect them him or herself; and goodwill is appraised by placing a value on existing patient and physician relationships, the medical and community profile, and the degree to which the selling physician agrees to transfer patients and referral sources to the buyer. Usually, a practice will be worth more to a buyer if the seller agrees to be actively involved in the transfer of patients during and after the practice sale. Although goodwill is the most difficult item to appraise, it generally carries the most value.

Many physicians — especially those in highly competitive environments — are discouraged about the possibilities of selling their practices because they believe there is no market for it. The reality is, the more competitive a medical environment (in both urban and rural communities), the greater the value a practice holds. Physicians whose practices are located in communities with competitive hospital environments should look first to area hospitals as potential buyers. Today it's quite common for hospitals to buy physician practices because it helps ensure their patient base. And, physicians whose practices are located in communities with several other medical practices in the same specialty, should look to their competitors as healthy purchasing prospects. Many competitors will recognize the value of buying an entire practice rather than relying on the possibilities of getting only a 15% to 25% fall-out of patients who may otherwise scatter to several other competing physicians. When selling a practice to another physician, the best potential buyer is a physician who is already in practice in a similar specialty and whose practice life cycle is still in its growth stage.

When selling a practice, it is the seller's responsibility to notify patients of the sale in writing, to transfer patient records, and to offer a personal endorsement of the pur-

Many physicians — especially those in highly competitive environments — are discouraged about the possibilities of selling their practices because they believe there is no market for it. Actually, the more competitive a medical environment, the greater the value a practice holds.

chasing physician's qualifications to patients.

The Segmented Sale

Some physicians have the opportunity to segment their practices into specialty areas and to sell these segments to appropriate specialists within their own or nearby medical communities. This opportunity presents itself most often to family physicians and internists who may have a board base of patients but who have "subspecialized" in specific areas throughout their careers.

The value of a "medical practice segment" can be determined in two ways. First, it can be valued according to the percentage of the entire practice that the "segment" represents, i.e., if gastroenterology represents 30% of a practice appraised at \$300,000, that gastroenterology segment would have a value of and be offered for sale at a price of \$90,000. Or, it can be valued based on the projected revenue the segment should bring to a potential buyer. For example, while an internist's "cardiology" patients may represent only 30% of a seller's practice, these patients may represent considerably more

value to a cardiologist buyer who can perform all of the clinical procedures. In this instance, it would be more advantageous for the seller to determine segment value based on revenue potential rather than percentage of practice volume.

Selling a practice off in segments can sometimes be easier for the seller than selling an entire practice and is almost always more cost-effective for the purchaser.

As when selling an entire practice, physicians who sell segments of their practices should notify patients in writing of the sale, transfer patient records, and include a personal endorsement to patients of the purchasing physicians.

Transferring Patients

Some physicians choose to simply transfer their patients to other qualified physicians without remuneration. This is similar to "closing the door," only in this instance the retiring physician chooses to have some influence over and to provide some guidance and stability of care for his or her patients rather than let them "fend for themselves." Again, it is the responsibility of the retiring physician to notify patients and to transfer patient records.

Closing the Practice

Physicians who choose to simply close their doors avoid the hassle involved with determining the economic value their practices and buy-sell negotiations. In addition to its relative simplicity, many physicians — particularly those with a strong belief in the separation of medicine and business — choose this option because it is philosophically the most comfortable. Despite the fact that it is relatively uncomplicated, there are several items that need to be addressed when closing a medical practice.

Whether you plan to sell your practice, transfer your patients, or close the doors, a systematic plan of action should be developed to

help ensure as smooth a retirement transition as possible. This plan should include the following elements.

Notification of employees

From a business perspective, it is best not to divulge plans to sell a practice until agreement in principle has been reached with the buyer. It is also best not to divulge plans to close a practice until you have *absolutely* made up your mind to do so. However, once the decision has been cast, employees should be notified as early as possible. While the announcement of a practice closing or sale can create anxiety among staff, it is far better to keep them informed than not. When you are up front with employees, you can work out cooperative arrangements that can be mutually beneficial.

Notification of patients

If you plan to sell your practice or transfer your patients, it is common courtesy to notify patients of the upcoming change and how it will effect them. On the other hand, if you plan to close your practice, failure to notify patients may be considered abandonment and may be grounds for malpractice. Although you may have thousands of patient names in your files, regulations of the State Board of Medical Examiners require that you notify only those who are under your current and direct care. Informing these patients of your practice closing should be done through a letter which explains the reason for closing and the expected closing date, including the name, address, telephone number, and a brief description of at least one or two physicians you would recommend for your patients' continued care is extremely helpful. If you cannot decide on such a physician, refer patients to your local medical society, the Medical Association of Georgia, or to your local hospital referral service.

Practice appraisals are often performed by practice management consultants who can also help find potential buyers and negotiate sales if necessary.

Notification of insurance carriers

Office insurance, workers' compensation, and liability insurance should be cancelled only when the office is totally vacated. Tail coverage for malpractice insurance should be obtained if you do not already have it. Notify Medicare, Medicaid, Blue Shield, and all major commercial and managed care carriers of your plans to sell or close the practice.

Accounts receivable and collections

Get your accounts receivable in order as soon as possible. If you don't already do so, consider asking for payment at the time of service and tighten up procedures for insurance filing. Age your accounts receivable, set up a tickler system to follow up on slow-paying patients, and develop an effective mail and telephone collections program. Accounts receivable coverage should be kept until all accounts are paid or written off.

Record retention and storage

While there is no limit by law in Georgia concerning how long physicians should maintain physician records, it is important for physicians to maintain records after retirement to protect themselves against possible malpractice. To find out how long you should keep your records, it is best to contact

your malpractice insurance carrier. Original patient charts and x-ray reports are to be sent to the purchasing or transfer physician; however, copies of these records must be maintained by the retiring physician, and arrangements must be made to store and/or microfilm these and all remaining records. Notify your local medical society concerning the location of these medical records.

Office lease and business equipment

While it is not likely that you can be released from a written office lease agreement, you can investigate the possibility of subletting your space. Also, remember that equipment leases do not terminate just because you close your practice. You are still obligated, but you can look for someone to take over this lease. If you own your equipment and furniture, explore options for selling it. Have it appraised. If appraisals are low, or you simply do not want to go through the hassles of advertising and selling, consider donating it to a charitable organization.

Notification of agencies

The final step in closing your medical practice is to inform all agencies and professional organizations. This includes the State Board of Medical Examiners, Drug Enforcement Administration, State Commissioner of Narcotics and Dangerous Drugs, the AMA state and local societies and the Social Security office if you are 65 or older.

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Rust v. Sullivan, and the Future of Abortion Under a More Conservative Supreme Court

Daniel A. Browning

The *Rust v. Sullivan* case,¹ decided earlier this year by the United States Supreme Court, upheld new federal regulations which prohibit abortion counseling in Title X programs. In deciding this case, the Supreme Court rejected a number of challenges to the regulations, which were raised on both Constitutional and statutory interpretation grounds. This Legal Section article will present an analysis and interpretation of the *Rust* case and will forecast the likely future of abortion-related cases which may soon come before the Supreme Court, including potential challenges to new state legislation such as the highly restrictive Louisiana laws.

The Rust Case Explained

In 1988, the Secretary of Health and Human Services (HHS) issued new regulations which prohibited family planning projects that receive Title X federal funds from engaging in any counseling concerning, referrals for, or activities advocating abortion as a method of family planning. Opponents (Title X grantees and physicians supervising Title X funds) challenged these regulations on three distinct grounds:

- 1) The regulations were not a permissible interpretation of the existing statutes applicable to Title X programs;
- 2) The regulations were an infringement on the First Amendment free speech rights of doctors, staff members, and patients

“This article presents an analysis and interpretation of the *Rust* case and forecasts the likely future of abortion-related cases which may soon come before the U.S. Supreme Court, including potential challenges to new state legislation such as the highly restrictive Louisiana laws.”

regarding abortion counseling; and

- 3) The regulations violated a woman's Fifth Amendment right to choose whether to terminate her pregnancy.

By a 5-4 margin, with Chief Justice Rehnquist writing the opinion, the Supreme Court rejected each of these challenges and upheld the new regulations.²

The language of the statute itself,

as noted by the Court, is indisputably ambiguous. Section 1008 states that Title X funds shall not be used “in programs where abortion is a method of family planning.” Under Title X, the specific interpretation and application of this statutory language is left up to the Secretary of HHS, who is authorized by statute to issue corresponding regulations. The 1988 regulations issued by the Secretary were more restrictive than the prior ones. Generally, courts give broad deference to federal agency regulations, overturning them only in cases where the regulations are clearly not a plausible interpretation of the applicable statute. In keeping with traditional guidelines of statutory interpretation, the Court noted that these regulations were within the realm of plausible interpretation of the statute, and as such would be considered valid.

Section 59.9 of the regulations also required that facilities which receive Title X funds must be kept separate, both physically and financially, from any prohibited abortion-related activities. The actual language is that “a Title X project must have an objective integrity and independence from prohibited activities. Mere bookkeeping separation . . . is not sufficient.” Some of the factors noted in this Section of the regulations to determine separateness include the existence of separate personnel, separate accounting records, and the degree of physical separation of the facilities.

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Opponents argued that these requirements would frustrate the underlying purpose of Title X, which, in their view, was to have Title X programs operate as an integrated part of a comprehensive health care system. The Court likewise rejected this challenge, holding that the Secretary's interpretation of the statute was within the permissible, plausible realm of interpretation.

Opponents also challenged the regulations on two Constitutional grounds. First, they argued that the regulations violated the First Amendment "free speech rights of private health care organizations that receive Title X funds, of their staff, and of their patients" by "impermissibly discriminating based on viewpoint."³ However, the Court noted that the regulations do not actually *prohibit* any particular viewpoint, but rather provide funding for certain types of facilities. By way of analogy, the Court reasoned that the mere fact that Congress appropriated funds for the National Endowment for Democracy did not impose upon Congress a Constitutional requirement to fund competing programs to support, say, Communism and Fascism. As such, the Court held that the regulations were not a "law singling out a disfavored group on the basis of speech content, but a case of the Government refusing to fund activities, including speech, which are specifically excluded from the scope of the project funded."⁴

The other Constitutional challenge was lodged on the basis of a woman's Fifth Amendment right to choose whether to terminate her pregnancy. The Court did not directly deny this right, but instead relied on the recent case of *Webster v. Reproductive Health Services*.⁵ In both *Webster* and *Rust*, the Court applied the principle that "the Gov-

ernment has no constitutional duty to subsidize an activity merely because the activity is constitutionally protected and may validly choose to fund childbirth over abortion."⁶ In other words, a woman seeking an abortion who encounters restrictions at a Title X facility is left in the same position as if Congress had chosen not to provide any funding for this type of facility in the first place.

The main dissent, written by Justice Blackmun (the author of the *Roe v. Wade*⁷ decision), argued that the regulations were in fact impermissibly restrictive in light of the original statute and legislative history, and that they were in violation of the First and Fifth Amendments. Justice Blackmun considered the alleged infringement of the Fifth Amendment rights of women to abortion to be "the most disturbing aspect of [the] ruling."⁸ He reiterated his dissent in the *Webster* case, and asserted that the right to abortion protected by *Roe*, while "technically . . . intact," had essentially been stripped of its substance and left practically unenforceable.⁹

Future Prospects

One of the elements of the *Rust* case which drew the most public attention was the vote of newly appointed Justice David Souter, who joined with the majority in upholding the regulations. This was the first opportunity for observers to gain a perspective on Justice Souter's views regarding abortion, and he appears to be aligned with the conservative wing of the Court. Justice O'Connor, who concurred in the landmark *Webster* decision, cast her vote with the dissent in *Rust*, but this was based primarily on her views of statutory interpretation rather than abortion *per se*. With the recent retirement of Justice Thurgood Marshall, a longtime liberal force on the Court, the balance is

virtually certain to shift even further to the right. Justice Marshall, along with Justice William Brennan (who also retired recently, being replaced by Justice Souter), provided two of the four dissenting votes cast in the *Webster* case.

An analysis of the composition of the current Supreme Court reveals that if *Roe v. Wade* is challenged directly, it is clearly susceptible of being overturned. Justice Scalia has already stated that he would overturn *Roe* if given the opportunity, because he considers abortion to be a "political issue" to be left to the legislative branch of the government, not the judiciary. Also in the *Webster* case, Chief Justice Rehnquist, along with Justice White and Kennedy, asserted that "we do not see why the State's interest in protecting potential human life should come into existence only at the point of viability." It is commonly believed that the only reason these Justices did not attempt to overrule *Roe* in the *Webster* decision was for reasons of statutory and Constitutional interpretation, understanding that such an overruling would not be proper given the scope of the case which they had before them. Justice O'Connor is very reluctant to decide a case on Constitutional grounds unless it is clearly required, and is also hesitant to decide a case on broader grounds than necessary. Nevertheless, she did vote with the majority in *Webster*, noting there that "there will be time enough to reexamine *Roe*. And to do so carefully."¹² Presumably, Justice Blackmun and Stevens will continue to support *Roe*, as they have always done in the past.

From these seven Justices alone there appear to be the five votes necessary to overturn *Roe*. Additionally, although Justice Souter

views on the matter are not yet entirely clear, he certainly appears to support the reasoning in *Webster* by virtue of his concurrence in *Rust*. The unknown quantity on the Court at present is Justice Marshall's successor. At the time of this writing, Judge Clarence Thomas had been nominated by President Bush to fill his vacancy, but he had not yet gone before the Senate confirmation hearings. Obviously, Judge Thomas has not made any definitive public statement as to his position on *Roe*, but in the past he has reportedly criticized the reasoning in both *Roe* and the historic *Griswold v. Connecticut*¹³ cases. In *Griswold*, the Supreme Court declared that the Constitution safeguards a fundamental right of privacy for all citizens. While this right is nowhere specifically enumerated in the Constitution, the Court held that it may be inferred from other explicitly stated rights contained in the Bill of Rights. This right was essential to the reasoning in *Roe*, with the Court concluding that "the right of personal privacy includes the abortion decision."¹⁴ Reportedly, Judge Thomas disagrees with the notion of a Constitutionally protected right of privacy as outlined in *Griswold* as do a number of conservative scholars in the field of Constitu-

tional law); this stance could then naturally lead to his rejection of the reasoning in *Roe*.

As noted above, the Supreme Court will not seek to overturn or restrict *Roe v. Wade* until it is presented with a direct challenge to current abortion rights in the form of a significantly more restrictive state or federal law. One law which may provide the impetus for the reconsideration of *Roe* was recently enacted by the State Legislature of Louisiana, despite a veto by Governor Roemer.¹⁵ This law prohibits abortions except in the cases of rape or incest, or to save the life of the mother. The law also defines life as beginning at the moment of conception. The crime of abortion is punishable by a sentence of one to 10 years at hard labor and a fine of \$10,000 to \$100,000. However, the woman who has an abortion is *not* the one to be punished; rather, the law calls for the punishment of the person who *performs* the act of abortion.

Abortion rights groups are already planning to mount campaigns in opposition to this and other restrictive abortion laws enacted in a number of states. It is likely that in the next couple of years, the Supreme Court will hear

a case involving a law such as this Louisiana statute. At that time, the Court will have to choose whether to decide the case on some narrow grounds, or whether instead to directly reconsider its 1973 ruling in *Roe v. Wade*. Presumably, if the Court overturns *Roe*, it will return the authority to establish or restrict the legality of abortions back to the States, with only minimal federal guidelines to limit them.

Notes

1. _____ U.S. _____, 111 S.Ct. 1759 (1991).
2. Some members of Congress are currently attempting to modify the HHS regulations to allow federal funding under Title X for abortion counseling activities. The status of this pending legislation has not yet been decided at the writing of this article; such legislation would in all likelihood face a veto by President Bush.
3. *Rust, supra*, 111 S.Ct. at 1771-2.
4. *Id.* at 1773.
5. 492 U.S. 490, 109 S.Ct. 3040, 106 L.Ed.2d 410 (1989).
6. *Rust, supra*, 111 S.Ct. at 1776.
7. 410 U.S. 113, 93 S.Ct. 705, 35 L.Ed.2d 147 (1973).
8. *Rust, supra*, 111 S.Ct. at 1784.
9. *Id.* at 1786.
10. See *Webster, supra*, 109 S.Ct. at 3064-5.
11. *Id.* at 3057.
12. *Id.* at 3061.
13. 381 U.S. 479, 85 S.Ct. 1678, 14 L.Ed.2d 510 (1965).
14. *Roe, supra*, 410 U.S. at 154.
15. 1991 Louisiana Act 26 (H.B. 112); Governor's veto overridden June 18, 1991.

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Function and Organ Sparing Role of Radiation Therapy in Cancer Management

Kamla J. Shah, M.D.

RADIATION THERAPY has the unique ability to cure while preserving normal structures and functions in the treatment of selected early cancer sites. Optimum cancer therapy should aim at curing the patient and preserving function (physical, physiological, psychosocial, and cosmetic) with minimal side effects and morbidity, thus improving the overall quality of life.

Detection of cancer at an early stage, better staging of the disease, improved radiologic imaging techniques, and modern sophisticated radiation therapy combined with chemotherapy and surgery have increased the overall survival and cure rate of cancer patients. Preservation of function has become important and exerts a major influence upon the treatment options which physicians must discuss with their patients. The role of radiation therapy for organ and function preservation in cancers of the skin, eyes, lips, tongue, and larynx is well known. For cancer of the rectum and anus, soft tissue sarcoma, breast, prostate, and Hodgkin's disease, treatment has changed in recent years and radiotherapy has contributed a great deal towards preserving organ and function.

Radiation therapy also plays an important palliative role in preserving function in both spinal compression (preventing paraplegia, bowel and urinary incontinence) and brain metastases by helping to eliminate neurologic deficits.

Skin Cancer is the most com-

mon malignancy. Radiation therapy is the treatment of choice for this malignancy, particularly in the head and neck areas. It has the advantage of being able to cover the tumor and a wide margin of subclinical disease and achieve a high cure rate (90 to 97%)^{1,2} with excellent cosmetic results in 80 to 90% of cases. For sites such as lower eyelids, nasolabial folds, nose and ears, radiation is the treatment of choice. It can achieve a high cure rate and excellent functional and cosmetic results.

‘Optimum cancer therapy should aim at curing the patient and preserving function with minimal side effects and morbidity, thus improving the overall quality of life.’

Eyelid Cancer: The cure rate is comparable to a surgical procedure, but radiation therapy has better functional and cosmetic results.³ The eyelid and vision are preserved.

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Eye Tumors are rare. Conjunctival lymphoma⁴ (90% cure rate) and carcinoma, and Graves' ophthalmopathy⁵ (90% response rate) can be treated successfully using primary radiation with preservation of vision. Radiation failures can be salvaged with surgery.

Lip Cancer: Radiation therapy is the treatment of choice for all lip cancers, the exception being small superficial lesions which are easily excised. Bulky lesions involving the full length and thickness of the lip demonstrate remarkable regression when treated with primary radiation. Again, function is preserved with a surprisingly intact lip and high cure rate.

Tongue Cancer: Local control of T1 and T2 cancers of the tongue with radiation is about 85 to 90%. Speech and swallowing functions are preserved. Fifty to sixty percent of radiation failures are surgically salvaged. It is important for both surgical and radiation oncologists to evaluate the patient at initial consultation.

Floor of Mouth Cancer: T1 and T2 lesions of the floor of the mouth treated with radiation yield a 90% and 75% 5-year control, respectively.⁶ Surgery is reserved for salvage of residual disease.

Glottic Cancer: Radiation therapy is the treatment of choice for T1 and T2 glottic cancers.⁷ The cure rate is 90 to 95% (same as surgery), and essentially normal quality voice is preserved. Surgical salvage is high (80%) for local persistence or recurrence, and the prognosis is not compromised.

Supraglottic Primaries: T2 and T3 supraglottic primaries have a 2-year locoregional control of 70% to 80% when treated with hyperfractionated radiation therapy.⁸ Surgical salvage (70% to 80%) is not compromised by this treatment approach.

Anal and Rectal Cancer: Until recently, the standard treatment for epidermoid carcinoma of the anus and of the lower third of the rectum was abdominoperineal resection with permanent colostomy. Various authors have reported an 80 to 90% 5-year local control with preservation of the anal sphincter utilizing chemoradiation.⁹ A radiation dose of 30 Gy with concurrent 5-FU & mitomycin is recommended. Surgery is used for patients not responding to chemoradiation. This local control rate represents a remarkable achievement for chemoradiation.

Lower Third of the Rectum Cancer: Papillon et al. reported on 60 patients with T2 and T3 lesions of the lower third of the rectum who received preoperative radiation (30 Gy) followed by anal sphincter sparing surgery.¹⁰ The survival at 2 years is 88% with only one local failure controlled by abdominoperineal resection. They also reported on 310 patients with T1 and small T2 lesions treated with contact x-ray therapy and iridium implant followed for 5 years. Local recurrence occurred in 14 patients (4.5%). Six were salvaged by radical surgery.

Soft Tissue Sarcoma: Review of the recent literature on soft tissue sarcomas shows 80 to 85% of patients treated with limb sparing surgery and radiation with or without chemotherapy have preserved function of the extremity.^{11,12} Surgery consists of wide local excision. Radiation is given pre or postoperatively depending on the size, site, and grade of tumor. These results are impressive if one consid-

ers that in the past a large number of these patients underwent surgical amputation. Amputation of a limb poses a major loss and causes a great change in the functional status. These patients are usually young, and the impact of cancer and amputation is enormous.

Breast Cancer: Treatment of breast cancer has changed from the radical and the modified radical mastectomy to conservative surgical procedures. Wide local excision for early breast cancer followed by definitive radiotherapy to preserve the breast has now become accepted as an alternative treatment. The overall survival and disease-free survival is the same for both mastectomy and conservative surgery (lumpectomy) with radiation therapy. Good cosmetic results and psychological well being are advantages to the latter. With the increasing use of mammography, self breast examination, and public awareness of the signs and symptoms of breast cancer, the number of breast cancers diagnosed early has increased. Some authors have reported a 90 to 95% 5-year survival as well as a high degree of surgical salvage in the small number of radiation failures (6.5%).¹³

Prostate Cancer: Radiation therapy has been shown to be very effective in the treatment of early prostate cancer.¹⁴ The survival rates are similar to radical prostatectomy. However, radical surgery causes impotency in nearly 100% of cases, whereas radiation therapy is associated with only a 30 to 40% impotency rate. The rate of impotency with nerve sparing prostatectomy is reported between 28 and 48%. Additionally, it may take up to 2 years for function to recover after surgery. Radical prostatectomy patients have a 2 to 5% chance of developing urinary incontinence. It is hoped that with ultrasound, prostate cancer will be diagnosed early and treated with radiation.

Hodgkin's Disease: Girls and young women with Hodgkin's disease treated with radiation to the abdomen and pelvis maintain menstrual function in 87% of cases where oophoropexy is performed and shielding is used.¹⁵

Effective cancer therapy involves a multidisciplinary and multimodality approach. This concept, although well known, is not implemented in practice as often as it should be. The only way for the patient to get the optimum choice of treatment is for the surgical, medical, and radiation oncologists to see the patient and explain the role of their respective specialties. This will help oncologists keep up to date about the changes in all modalities. It will also help teach medical students and future oncologists the training of the need for multidisciplinary line, multimodality approach in cancer management.

One final fiscal note: the relative cost of surgery (for early cancers of the glottis, breast, and prostate) is higher than the cost of radiation therapy.¹⁶ This is important to consider when treatment results are comparable.

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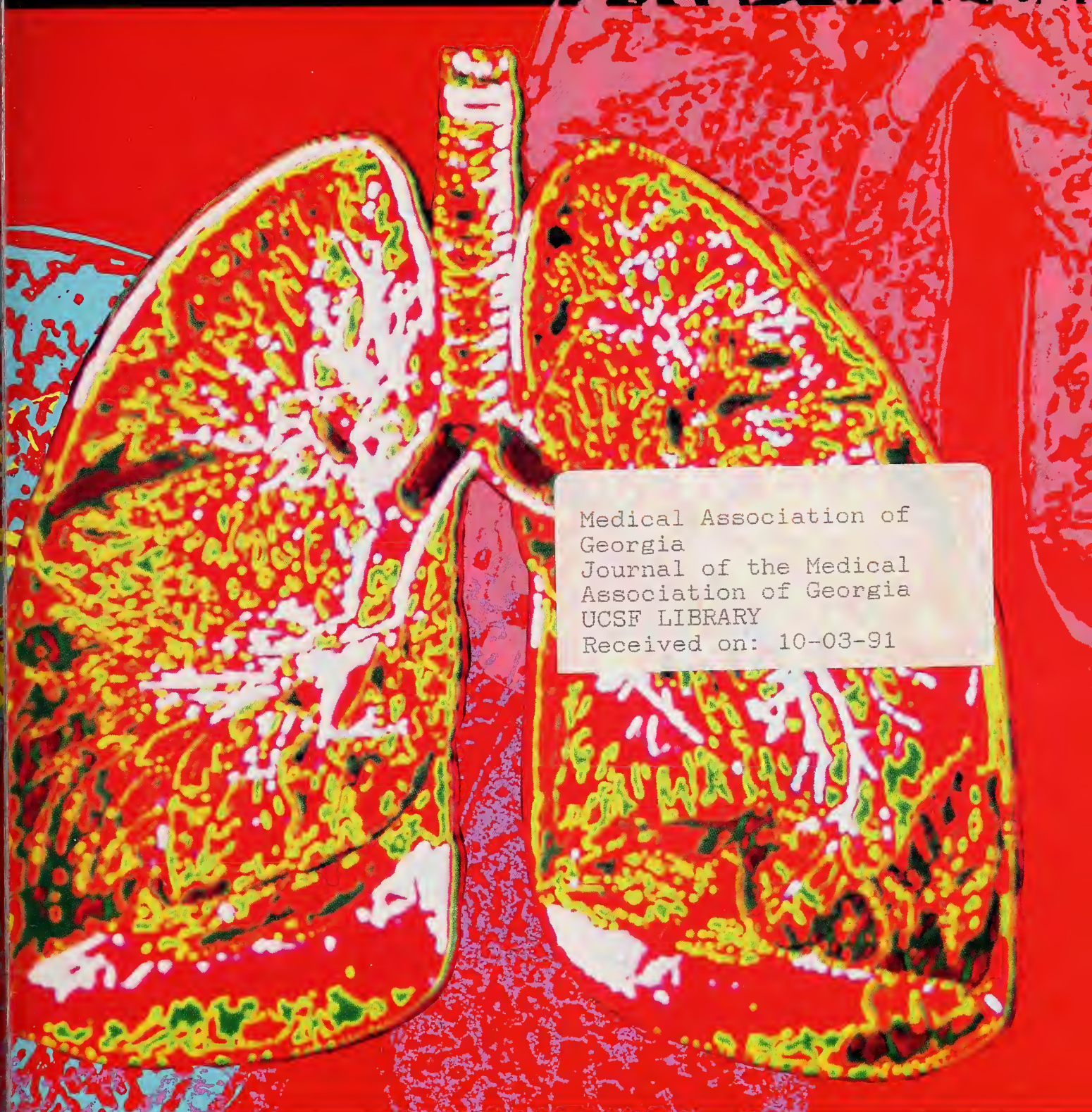
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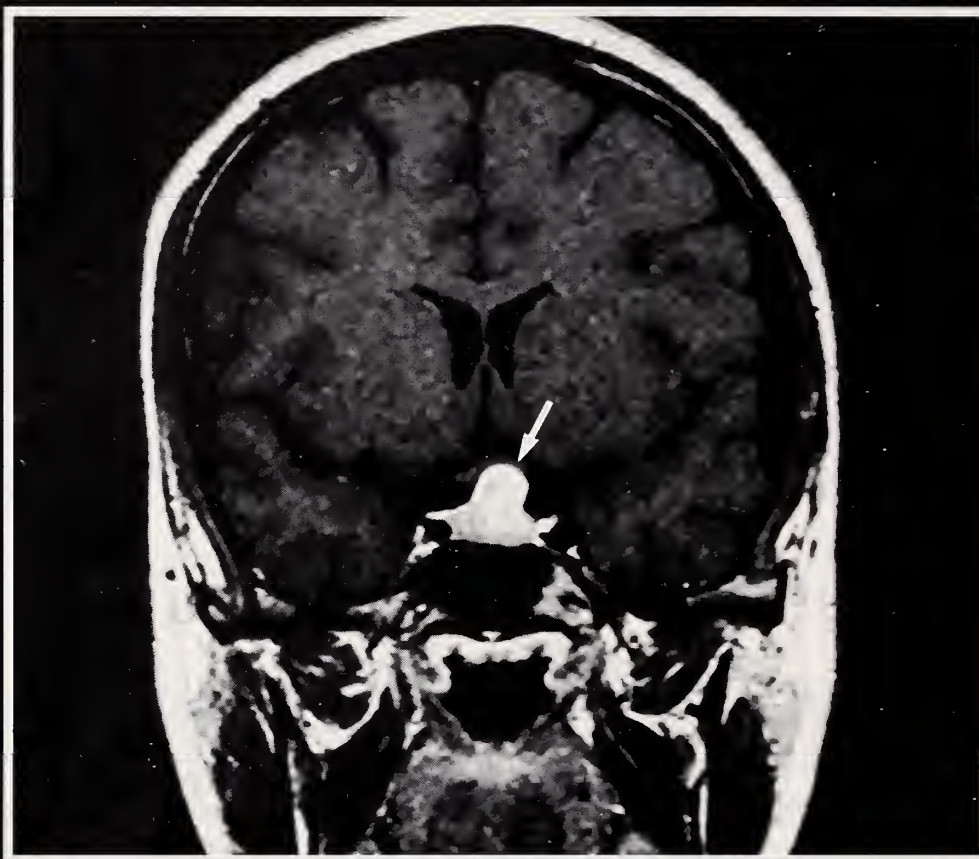
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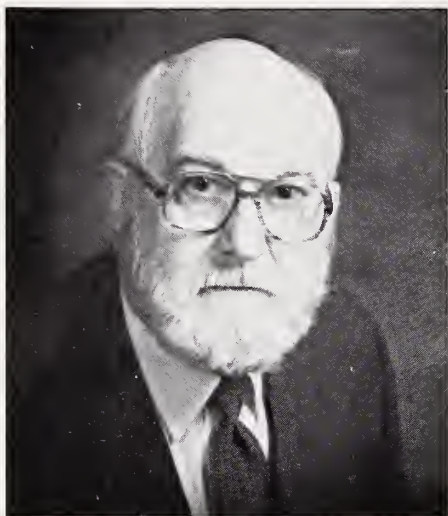
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Lung image from Howard Sochurek, Delray Beach, Florida; Design by Richardson Design, Atlanta.



Cyler Garner, M.D.

Much Ado About Nothing

"He that hath a beard is more than a youth, and he that hath no beard is less than a man."

SHAKESPEARE

Much Ado About Nothing

"It would be worth some statistician's while to go through the great names of English literature and compare the amount of genius that has gone bearded with the amount of genius that has been clean shaven. The bearded, I fancy, would be in a numerical majority, but we can estimate the weight of genius on the other side when we remember that Chaucer, Shakespeare, Bacon, Spenser, Dickens, Carlyle, Ruskin, Browning, Tennyson, Swinbourne, Meredith, Morris and Shaw have all worn beards; Matthew Arnold wore Whiskers.

ROBERT LYND,

Solomon In All His Glory

AS THOSE OF YOU who know me — and the rest of you who can look at my picture — can tell, I'm a man partial to beards. I've had one for so many years that I'm not

sure myself what I look like without one. And I don't want to find out. Besides, a beard is about the finest thing a man can do for himself.

A beard is a manly thing designed for those who hunt and spend great time out of doors. I believe, based on no evidence whatsoever, that beards went out of style when men figured out that a beard gave an opponent something to hang on to in a fight. Since I'm not much for street fighting anymore (I have to reserve my battles to third-party payors), I don't find a beard much of a hinderance. And a beard is a handsome thing. Women tend to be impressed by a beard. Or, in other words, Fay likes my beard. I feel it lets me join in an exclusive club of men who are no longer boys and are comfortable with the fact.

So, you can imagine my chagrin lately when our executive director, Paul Shanor, has had to take a good deal of ribbing about his beard. Of course, his beard is not nearly as attractive as mine, but give him time. A beard is not a here today proposition. A beard takes cultivation, patience, and thoughtfulness.

A beard reflects a man who has arrived with himself. You won't find Paul out on the rapids of any wild rivers trying to prove himself. No sir. Not now that he has a beard. Despite Paul's protests that he is only growing a beard to please his wife, I know that the truth is that my influence for the better is finally influencing Paul. As his beard grows and fills in, you'll see what I mean.

Welcome to the club, Paul. You'll find a great many advantages in having hair on your face. A beard gives a man something to do when he is doing nothing but wants to appear to be in deep thought. I rub my hand across my beard a few times and usually someone comes up with an answer that I can take credit for. It saves time and convinces other people I really am brilliant. It could be that we'll start a trend.

Cyler D. Garner, M.D.

From the Georgia Medical Care Foundation

Tips on Medical Record Documentation

GOOD MEDICAL documentation has become increasingly important in recent years. With the "Team approach" to patient care, good records are essential to communication among all members of the team. It is also true that the legal implication of good or bad records can be enormous. Peer review has become a third area for which documentation is very important. The following discussion deals with frequently noted deficits from the standpoint of the GMCF review experience. Had these missing elements been supplied in the medical record, the *Requests for Additional Documentation* which resulted would have been unnecessary. This in turn would have spared the attending physician the nuisance of replying.

- The record should include the reasons why it is *not* necessary to address a given abnormal finding — whether on physical examination, laboratory, or X-ray report. Such a reason might be that the finding was previously known and had been properly investigated and required no further action. Our reviewers have access *only* to the chart being reviewed.

- It is very important to verify or at least discuss your assessment of stability at discharge, particularly when there are apparent evidences of instability. This would often be important in patients who are inherently unstable such as brittle diabetics or patients with severe COPD. Also, it is important to note when a patient is leaving against physician advice.

- It is advisable to record your thoughts on major decision making, particularly when there seems to be more than one course of action and there are cogent argu-

ments for and against each course.

- When the need for an admission is a "close call," the attending physician should include in his admission note or admission H&P the reasons why the hospital in-patient care seems justified on medical grounds. Sociological factors are cogent, though convenience factors are not. The exhaustion of alternative outpatient care should be emphasized by the attending physician.

- When it might appear from the record that the intensity of care being given was too great or not great enough, the reasons for the level chosen should be explained in a progress note. The need for such is often encountered in "no-code" situations. In progress notes supporting *no-code* status, information indicating the need for continued hospital care and the *level* of support requested by the patient and family should be included.

- When failing to order old medications used prior to admission or failing to continue, on discharge, medications used during the admission, reasons for such changes should be recorded.

- X-ray or lab reports may include the recommendation that *other* studies be made. If the attending physician believes that these recommended additional studies are *not* needed, he should document his reasons for thinking so.

- If the attending physician has concerns as to the adequacy of discharge plans, he should document these concerns and give his reasons for agreeing to them anyway — as the best available compromise.

- The attending physician should acknowledge and respond in prog-

ress notes to recommendations made by consultants. The attending physician should not assume that abnormal findings are being addressed by other members of the team, but should assure himself that important matters are not being neglected. The record should indicate specifically what the consultant is to do and the extent of the responsibility (e.g., Dr. X to manage cardiac problems).

- When readmissions for the same medical reason occur within 1 month of a previous discharge, the admission note or H&P should include the factors, other than instability on previous discharge, which led to readmission: chronic instability, lack of patient compliance with instructions, etc. Emphasize new and unrelated illnesses as reasons for readmission, if such is true.

- The information in the medical record should include all pertinent positive findings *and* significant unexpected negative findings. The record should stress specific points and minimize generalities. Avoid references to sensitive situations that might violate patient confidentiality.

Third (3rd) party peer review is surely here to stay. Good medical record keeping will help to render it more nearly pain-free and criticism free. Always remember that the medical record can be your best friend or your bitter enemy — a fact of practice life.

Dan Burge, M.D.
Associate Medical Director —
Quality

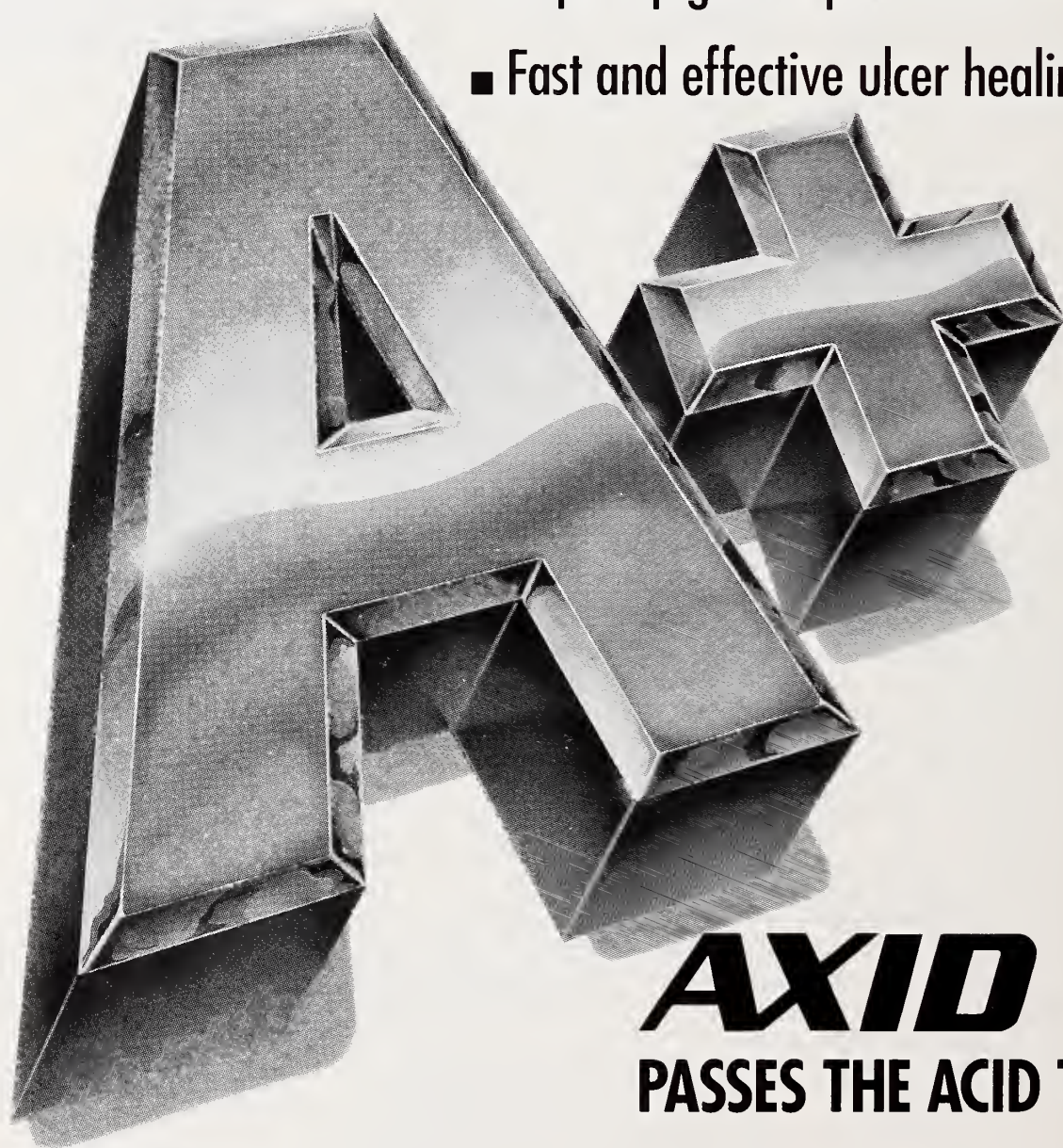
Ralph A. Murphy, M.D.
Medical Director — GMCF

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duodenal ulcers...

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has the right answers

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- Fast and effective ulcer healing^{2,3,4}



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*Most patients experience pain relief with the first dose.
See adjacent page for references and brief summary
of prescribing information.

AXID® (nizatidine capsules)

Brief Summary Consult the package insert for complete prescribing information.
Indications and Usage: 1. *Active duodenal ulcer*—for up to 8 weeks of treatment. Most patients heal within 4 weeks.

2. *Maintenance therapy*—for healed duodenal ulcer patients at a reduced dosage of 150 mg h.s. The consequences of therapy with Axid for longer than 1 year are not known.

Contraindications: Known hypersensitivity to the drug. Because cross sensitivity in this class of compounds has been observed, H₂-receptor antagonists, including Axid, should not be administered to patients with a history of hypersensitivity to other H₂-receptor antagonists.

Precautions: *General*—1. Symptomatic response to nizatidine therapy does not preclude the presence of gastric malignancy.

2. Dosage should be reduced in patients with moderate to severe renal insufficiency.

3. In patients with normal renal function and uncomplicated hepatic dysfunction, the disposition of nizatidine is similar to that in normal subjects.

Laboratory Tests—False-positive tests for urobilinogen with Multistix® may occur during therapy.

Drug Interactions—No interactions have been observed with theophylline, chloridazepoxide, lorazepam, lidocaine, phenytoin, and warfarin. Axid does not inhibit the cytochrome P-450 enzyme system, therefore, drug interactions mediated by inhibition of hepatic metabolism are not expected to occur. In patients given very high doses (3,900 mg) of aspirin daily, increased serum salicylate levels were seen when nizatidine, 150 mg b.i.d., was administered concurrently.

Carcinogenesis, Mutagenesis, Impairment of Fertility—A 2-year oral carcinogenicity study in rats with doses as high as 500 mg/kg/day (about 80 times the recommended daily therapeutic dose) showed no evidence of a carcinogenic effect. There was a dose-related increase in the density of enterochromaffin-like (ECL) cells in the gastric oxyntic mucosa. In a 2-year study in mice, there was no evidence of a carcinogenic effect in male mice, although hyperplastic nodules of the liver were increased in the high-dose males as compared with placebo. Female mice given the high dose of Axid (2,000 mg/kg/day, about 330 times the human dose) showed marginally statistically significant increases in hepatic carcinoma and hepatic nodular hyperplasia with no numerical increase seen in any of the other dose groups. The rate of hepatic carcinoma in the high-dose animals was within the historical control limits seen for the strain of mice used. The female mice were given a dose larger than the maximum tolerated dose, as indicated by excessive (30%) weight decrement as compared with concurrent controls and evidence of mild liver injury (transaminase elevations). The occurrence of a marginal finding at high dose only in animals given an excessive and somewhat hepatotoxic dose, with no evidence of a carcinogenic effect in rats, male mice, and female mice (given up to 360 mg/kg/day, about 60 times the human dose), and a negative mutagenicity battery are not considered evidence of a carcinogenic potential for Axid.

Axid was not mutagenic in a battery of tests performed to evaluate its potential genetic toxicity, including bacterial mutation tests, unscheduled DNA synthesis, sister chromatid exchange, mouse lymphoma assay, chromosome aberration tests, and a micronucleus test.

In a 2-generation, perinatal and postnatal fertility study in rats, doses of nizatidine up to 650 mg/kg/day produced no adverse effects on the reproductive performance of parental animals or their progeny.

Pregnancy—Teratogenic Effects—Pregnancy Category C—Oral reproduction studies in rats at doses up to 300 times the human dose and in Dutch Belled rabbits at doses up to 55 times the human dose revealed no evidence of impaired fertility or teratogenic effect; but, at a dose equivalent to 300 times the human dose, treated rabbits had abortions, decreased number of live fetuses, and depressed fetal weights. On intravenous administration to pregnant New Zealand White rabbits, nizatidine at 20 mg/kg produced cardiac enlargement, coarctation of the aortic arch, and cutaneous edema in 1 fetus, and at 50 mg/kg, it produced ventricular anomaly, distended abdomen, spina bifida, hydrocephaly, and enlarged heart in 1 fetus. There are, however, no adequate and well-controlled studies in pregnant women. It is also not known whether nizatidine can cause fetal harm when administered to a pregnant woman or can affect reproduction capacity. Nizatidine should be used during pregnancy only if the potential benefit justifies the potential risk to the fetus.

Nursing Mothers—Studies in lactating women have shown that 0.1% of an oral dose is secreted in human milk in proportion to plasma concentrations. Because of growth depression in pups reared by treated lactating rats, a decision should be made whether to discontinue nursing or the drug, taking into account the importance of the drug to the mother.

Pediatric Use—Safety and effectiveness in children have not been established.

Use in Elderly Patients—Healing rates in elderly patients were similar to those in younger age groups as were the rates of adverse events and laboratory test abnormalities. Age alone may not be an important factor in the disposition of nizatidine. Elderly patients may have reduced renal function.

Adverse Reactions: Clinical trials of varying durations included almost 5,000 patients. Among the more common adverse events in domestic placebo-controlled trials of over 1,900 nizatidine patients and over 1,300 on placebo, sweating (1% vs 0.2%), urticaria (0.5% vs <0.01%), and somnolence (2.4% vs 1.3%) were significantly more common with nizatidine. It was not possible to determine whether a variety of less common events were due to the drug.

Hepatic—Hepatocellular injury (elevated liver enzyme tests or alkaline phosphatase) possibly or probably related to nizatidine occurred in some patients. In some cases, there was marked elevation (>500 IU/L) in SGOT or SGPT and, in a single instance, SGPT was >2,000 IU/L. The incidence of elevated liver enzymes overall and elevations of up to 3 times the upper limit of normal, however, did not significantly differ from that in placebo patients. All abnormalities were reversible after discontinuation of Axid. Since market introduction, hepatitis and jaundice have been reported. Rare cases of cholestatic or mixed hepatocellular and cholestatic injury with jaundice have been reported with reversal of the abnormalities after discontinuation of Axid.

Cardiovascular—In clinical pharmacology studies, short episodes of asymptomatic ventricular tachycardia occurred in 2 individuals administered Axid and in 3 untreated subjects.

CNS—Rare cases of reversible mental confusion have been reported.

Endocrine—Clinical pharmacology studies and controlled clinical trials showed no evidence of androgenic activity due to nizatidine. Impotence and decreased libido were reported with equal frequency by patients on nizatidine and those on placebo. Gynecomastia has been reported rarely.

Hematologic—Fatal thrombocytopenia was reported in a patient treated with nizatidine and another H₂-receptor antagonist. This patient had previously experienced thrombocytopenia while taking other drugs. Rare cases of thrombocytopenic purpura have been reported.

Integumental—Sweating and urticaria were reported significantly more frequently in nizatidine- than in placebo-treated patients. Rash and exfoliative dermatitis were also reported.

Hypersensitivity—As with other H₂-receptor antagonists, rare cases of anaphylaxis following nizatidine administration have been reported. Rare episodes of hypersensitivity reactions (eg, bronchospasm, laryngeal edema, rash, and eosinophilia) have been reported.

Other—Hyperuricemia unassociated with gout or nephrolithiasis was reported. Eosinophilia, fever, and nausea related to nizatidine have been reported.

Overdosage—Overdoses of Axid have been reported rarely. If overdosage occurs, activated charcoal, emesis, or lavage should be considered along with clinical monitoring and supportive therapy. Renal dialysis does not substantially increase clearance of nizatidine due to its large volume of distribution.

PV 2091 AMP
[091190]

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1. Data on file, Lilly Research Laboratories.
 2. *Scand J Gastroenterol*. 1987;22(suppl 136):61-70.
 3. *Scand J Gastroenterol*. 1987;22(suppl 136):47-55.
 4. *Am J Gastroenterol*. 1989;84:769-774.
- NZ-2943-B-149347

Additional information available to the profession on request.



Eli Lilly and Company
Indianapolis, Indiana
46285

YOCON® YOHIMBINE HCl

Description: Yohimbine is a 3a-15a-20B-17a-hydroxy Yohimbine-16a-carboxylic acid methyl ester. The alkaloid is found in Rubiaceae and related trees. Also in *Rauwolfia Serpentina* (L.) Benth. Yohimbine is an indolalkylamine alkaloid with chemical similarity to reserpine. It is a crystalline powder, odorless. Each compressed tablet contains (1/12 gr.) 5.4 mg of Yohimbine Hydrochloride.

Action: Yohimbine blocks presynaptic alpha-2 adrenergic receptors. Its action on peripheral blood vessels resembles that of reserpine, though it is weaker and of short duration. Yohimbine's peripheral autonomic nervous system effect is to increase parasympathetic (cholinergic) and decrease sympathetic (adrenergic) activity. It is to be noted that in male sexual performance, erection is linked to cholinergic activity and to alpha-2 adrenergic blockade which may theoretically result in increased penile inflow, decreased penile outflow or both.

Yohimbine exerts a stimulating action on the mood and may increase anxiety. Such actions have not been adequately studied or related to dosage although they appear to require high doses of the drug. Yohimbine has a mild anti-diuretic action, probably via stimulation of hypothalamic centers and release of posterior pituitary hormone.

Reportedly, Yohimbine exerts no significant influence on cardiac stimulation and other effects mediated by B-adrenergic receptors, its effect on blood pressure, if any, would be to lower it, however no adequate studies are at hand to quantitate this effect in terms of Yohimbine dosage.

Indications: Yocon® is indicated as a sympatholytic and mydriatic. It may have activity as an aphrodisiac.

Contraindications: Renal diseases, and patient's sensitive to the drug. In view of the limited and inadequate information at hand, no precise tabulation can be offered of additional contraindications.

Warning: Generally, this drug is not proposed for use in females and certainly must not be used during pregnancy. Neither is this drug proposed for use in pediatric, geriatric or cardio-renal patients with gastric or duodenal ulcer history. Nor should it be used in conjunction with mood-modifying drugs such as antidepressants, or in psychiatric patients in general.

Adverse Reactions: Yohimbine readily penetrates the (CNS) and produces a complex pattern of responses in lower doses than required to produce peripheral a-adrenergic blockade. These include, anti-diuresis, a general picture of central excitation including elevation of blood pressure and heart rate, increased motor activity, irritability and tremor. Sweating, nausea and vomiting are common after parenteral administration of the drug.^{1,2} Also dizziness, headache, skin flushing reported when used orally.^{1,3}

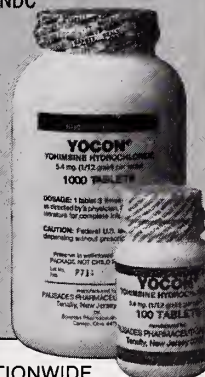
Dosage and Administration: Experimental dosage reported in treatment of erectile impotence.^{1,3,4} 1 tablet (5.4 mg) 3 times a day, to adult males taken orally. Occasional side effects reported with this dosage are nausea, dizziness or nervousness. In the event of side effects dosage to be reduced to 1/2 tablet 3 times a day, followed by gradual increases to 1 tablet 3 times a day. Reported therapy not more than 10 weeks.³

How Supplied: Oral tablets of Yocon® 1/12 gr. 5.4 mg in bottles of 100's NDC 53159-001-01 and 1000's NDC 53159-001-10.

References:

1. A. Morales et al., *New England Journal of Medicine*: 1221, November 12, 1981.
2. Goodman, Gilman — *The Pharmacological basis of Therapeutics* 6th ed., p. 176-188. McMillan December Rev. 1/85.
3. *Weekly Urological Clinical letter*, 27:2, July 4, 1983.
4. A. Morales et al., *The Journal of Urology* 128: 45-47, 1982.

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Of Consistency and Of Honor

Charles R. Underwood, M.D.

Where we desire to be informed, 'tis good to converse with men above ourselves; but to confirm and establish our opinions, 'tis best to argue with judgments below our own, that the frequent spoils and victories over their reasons, may settle in ourselves an esteem and confirmed opinion of our own. Every man is not a proper champion for truth, nor fit to take up the gauntlet in the cause of verity: many from the ignorance of these maxims, and an inconsiderate zeal for truth, have too rashly charged the troops of error, and retained as trophies unto the enemies of truth. A man may be in as just possession of truth as of a city, and yet be forced to surrender; 'tis therefore far better to enjoy her with peace, than to hazard her on a battle: if therefore there rise any doubts in my way, I do forget them, or at least defer them, till my better settled judgement, and more manly reason be able to resolve them; for I perceive every man's own reason is his best Oedipus, and will upon a reasonable truce, find a way to loose those bonds wherewith the subtilties of error have enchained us more flexible and tender judgements."

Religio Medici,

SIR THOMAS BROWNE, KT.M.D.

"Behold thyself by inward optics and the crystalline of thy soul. Strange it is, that in the most perfect sense there should be so many fal-

'Into this haven of mine . . . came two lawyers. Brief cases in hand. A maroon dossier at the ready. Cornered in my own office, in my peaceful hideaway from major distractions, they came.'

lacies, that we are fain to make a doctrine, and often to see by art. But the greatest imperfection is in our inward fight, that is, to be ghosts unto our own eyes; and while we are so sharp-sighted as to look through others, to be invisible unto ourselves; for the inward eyes are more fallacious than the outward. The vices we scoff at in others, laugh at us within ourselves. Avarice, pride, falsehood, lie undiscerned and blindly in us, even to the age of blindness; and, therefore, to see ourselves interiorly, we are fain to borrow other men's eyes; wherein true friends are good informers, and censors no bad friends."

Religio Medici,

SIR THOMAS BROWNE, KT.M.D.

FOR ALL OF US, there come difficult days which present a conflict between strongly held beliefs

and highly regarded and revered friendships. Such started for me most recently in the comfortable security of an afternoon in the office seeing patients, many of them friends through the years of providing their medical care. One must have practiced medicine for a time in order to have accumulated that number of patients providing close personal concern and appreciation often through generations to make an "afternoon in the office" an experience so suffused with joy and sadness, and at times with tears, to place such time alongside life's most satisfying moments. The indescribable quieting of one's anxiety over self-worth or goals achieved or not achieved by hearing a patient 20 years following successfully managing a myocardial infarction or removing a colon cancer tell of the size of the tomatoes in their garden is an orgasmic experience allowed to but few.

But into this haven of mine — this happy time when old and young patients, some cared for through many years, come in for their follow-up visit — came two lawyers. Brief cases in hand. A maroon dossier at the ready. Cornered in my own office, in my peaceful hideaway from major distractions, they came. One of the two was a friend of long-standing and beyond this a patient upon whom I had operated. Therein arose the conflict between a friend whom I respected — and yet a lawyer. A member of

that profession we have for occasional good reason come to view with something less than genuine admiration and trust. Now, I understand "lawyers." I know all the jibes and jests. I can for instance tell a dead snake from a dead lawyer when they lie in the highway. The occasion for this visit however was to ask that I sign an "affidavit" which in effect would say that another surgeon, a friend and peer of mine, had in the course of his practice committed an act of "negligence." Now this "affidavit" needed before legal action could be filed grew out of an action by us physicians. We, the MAG, and our lobbyists had eased it through the legislature to become law in our effort to bring some semblance of reason into the chaotic arena of malpractice litigation. Did I feel that an act of negligence had occurred? Yes, surely, such was the truth of the matter. But dare I become a witness for the plaintiff? That very word, "plaintiff," had gained a position in our vocabulary of such power as to strike fear and anxiety in the heart of most physicians.

Now the question forced itself upon me. "Shall I stand by this once promoted position of my state medical society — risk the alienation of friends gained through years of coming to respect and revere such friendships — or refuse to lend aid to the legal system this particular portion of which we had devised ourselves? Should I sign the affidavit and thereby lend implied confirmation to an act of negligence —

or refuse to sign it and by so doing abandon a principle both I and my organization had at one point in time given birth to."

I found my thoughts going back to a statement made by myself sitting as an "expert witness" to the jury in the quaint courtroom located in the "Courthouse in the Square" in Danielsville, Georgia. It had begun for me some months earlier when I had walked unsuspectingly into one of my examining rooms knowing little more of the patient than that she was 42 years of age and had come to me for a "personal second opinion" concerning a breast cancer. The conversation that followed let me know that 1 year earlier she had seen her family physician in a small town some distance from my own pointing out to him, or so it was alleged, a "lump" in her breast. Observation was advised and thus it was that she came to me with a far advanced carcinoma of the breast surely beyond cure. The filing of the legal action for negligence soon followed and from this my own summons to the little square in Danielsville for the trial. I sat with unaccustomed awkwardness and unease upon the witness stand, hand upon Bible, and swore. He stood before me, the attorney for the "defendant," for the physician, for my peer — he stood there before me and said in that surly manner with which some lawyers seem to be born, "You are here, I under-

stand, as a witness for the 'plaintiff' Now will you . . ." — at which point I found myself interrupting the interrogation before caution gained hold of me. "No, sir," I said, "I am not here as a witness for or against anybody. I am here to help you find the truth in this matter for that is what I thought this was all about. The jury, the 12 of them, smiled quietly.

Shall I sign the dreaded affidavit? Sign it, and by so doing set into motion the "wheels of justice," or, find some fragile excuse not to sign it, thus lending quiet assent to those accusations of self protectionism hurled at us by an evermore suspicious public? Yes, I shall surely sign it.

We are at one of many crossroads in medicine. We pride ourselves on being in possession of characterized by, steadfast integrity. Impeccable honesty. If this be the case, and I believe in general that it is, then this affidavit must be signed. This injured patient assisted in gaining fair redress for wrong. I shall lose sleep tonight. Lawyers are not my accustomed bedmates. Yet they are a necessary component in far more instances than we might be willing to admit. a highly ethical and respected component, in this world of "law and order" of which we pride ourselves. My patient resides today in this system of law and order. She needs my help and as surely as she would have received my surgical help shall she be the recipient of my legal help.

SEASON'S CHANGE

When the corn
and the tall grass turn
and the frost first paints a morning silver
over the meadows —
When the back lawns
and the winter wheat
offer the only edible green —

The deer edge quietly
seeing the soft green shoots.
Rabbit tobacco
is ripe and ready
for rabbits —

Green nests
of mistletoe
are built by the invisible birds
of autumn,
and green arms
of bamboo vine
cling
to the baring limbs.

A hunter's gun
crinkles
the afternoon's silence,
and a crow
voices
his annoyance.
Summer sleeps
late —
as autumn awakens with the dawn.

The mill wheel
creaks
to a slow stop
for a winter's rest.

As mill stones
drag
their weight,
stone against stone,
sleep
drags against consciousness,
patchwork covers
high against the neck.

MOUNTAIN

Skyward rears its head and, unafraid
Stretches toward the stars that nestle there,
While winds play through the pines that form its
hair,
Making inconstant shadows of their shade.
Foreboding darkness lends to it an air
Of silent mystery, of monstrous power —
Then lightning streaks across the darkened hour
As storm clouds growl and leave their secret lair.
Now, as once a slave in days long past
Cowered before some mighty Caesar's chair,
The mighty mountain trembles at each flare
And trembles at each sudden thunder blast!
And so for every power man can find,
There always lies the greater one behind.

JOHN RANSOM LEWIS, M.D.

Dr. Lewis, a plastic surgeon in Atlanta, is Georgia's Poet Laureate.



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Lung Diseases: Where We Are Now and Where We Are Going

Eric G. Honig, M.D.

THE PROGRESS of pulmonary medicine in the 20th century is aptly reflected in the history of one of its major journals. A generation ago, the *American Review of Respiratory Disease* was known as the *American Review of Tuberculosis*. Three years ago, the *Review* spun off a new publication, the *American Journal of Respiratory Cell and Molecular Biology*. The past, the present, and the future of a medical discipline are recorded on its covers. In this issue of the *Journal of the Medical Association of Georgia*, we celebrate Georgia Lung Awareness Month by reviewing the present State of the Art of and a glance at the future of four important aspects of pulmonology.

Interstitial Lung Disease

Diseases of the pulmonary parenchyma are at a crossroads. Doctors Staton and Perez review the clinical aspects of this family of lung disorders and how we view them today. If the 70s and 80s have brought at least a clinical frame of reference for approaching these diseases, the 90s will bring a distinctly molecular viewpoint as bench work begins to find clinical expression. We are now in a position similar to diabetology in the time of Banting and Best or hematology of William Castle's era. Manipulation of cellular mechanisms of inflammation and fibrogenesis, control of intercellular communications, and immune response modulation will become part of clinical practice, as did insulin and

‘In this issue, we review the present State of the Art of pulmonary medicine and glance at the future of four important aspects of pulmonology.’

intrinsic factor. A review of interstitial disease written 10 years from now will have a focus very different from where we are today.

Asthma

Asthma has become a much more serious problem in the last 10 years. According to the CDC, incidence is up, mortality is up, and management of the disease is costing billions annually. The networks tell us we are endangering our patients with beta adrenergic agonists, the bellwether of asthma therapy for the last two decades. Why are we having these problems?

The recent literature suggests we have been missing the mark in our management of asthmatics. The essential concept to be assimilated is that bronchospasm is the symp-

tom, not the disease. The disease that we should be treating is airway inflammation. Anti-inflammatory therapy is now the basis for the treatment of asthma, with bronchodilators relegated to the status of symptomatic relief. Asthma must be viewed, like diabetes mellitus or systemic arterial hypertension, as a chronic disorder requiring regular management by an educated patient working in concert with a knowledgeable physician. Acute severe asthma often represents a medical failure in the management of a treatable disorder.

In the coming years, the asthma literature will bring a focus to a variety of strategies to reduce airway inflammation and new families of agents to deal with the cascade of humoral and cellular mediators that characterize the asthmatic state.

Ventilators

Weaning the long-term ventilator patient has always been an expensive exercise in frustration. Over the last 10 years, respiratory muscle physiologists have called our attention to the major role diaphragmatic fatigue plays in prolonged respiratory insufficiency and the need to consider ventilatory drive as a factor in patient tolerance of the ventilator. Pressure-support ventilation (PSV) was designed to minimize respiratory muscle work and fatigue while maximizing patient comfort. Ongoing work suggests PSV may reduce weaning time in some patients. In her paper, Dr.

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Stock reviews the rationale and mechanisms of PSV and discusses its appropriate clinical application.

The track record of contemporary ventilatory management of the Adult Respiratory Distress Syndrome (ARDS) is even more distressing. A growing realization that pressure and volume swings in the ventilatory cycle may be damaging already sick lungs leads directly to Pogo's observation, "We have met the enemy, and he is us." Efforts to minimize ventilator barotrauma underlie many of the newer modes of support of ARDS. Dr. Stock covers

two of these methods, airway pressure release ventilation (APRV) and extracorporeal CO₂ removal. These are both experimental methods whose role in the community outside the academic medical center remains to be elucidated.

Sleep Apnea

Before the 1980s, sleep apnea was a medical oddity. Today it is recognized as a too-common disabling respiratory and neurologic disorder. In the past decade we have seen the establishment of sleep laboratories and the foundation of

sleep disorders as a separate medical discipline. We have established criteria for diagnosis and begun to make some headway in therapy. In the 1990s, we seek to elucidate the mechanisms underlying sleep apnea, to find effective pharmacotherapy or surgical treatment for sleep apnea. We are seeking to learn what the natural history and long-term risks of sleep apnea may be. Doctors Chaudhary and Smith review the state of the art in sleep apnea today.



To Anyone Who Has A Lung Disease This Is A Breathtaking View.

Climbing even a short flight of stairs can leave a person who suffers from a chronic lung disease fighting for breath. An estimated one out of ten Americans suffers from chronic lung disease. And the mortality rate from lung diseases is increasing faster than any of the other top ten causes of death.

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Interstitial Lung Disease: State of the Clinical Art

Rafael L. Perez, M.D., Gerald W. Staton, Jr., M.D.

Introduction

THE INTERSTITIUM of the lung consists of a latticework of collagen, elastin, and other proteins that support the lung parenchyma.^{1,2} The pulmonary interstitium is formed by tight fusion of the basement membranes of the alveolar epithelial and the capillary endothelial surfaces that facilitates movement of oxygen and carbon dioxide across the alveolar wall. Coursing towards the pleura, the interstitium becomes thinner and looser and surrounds bronchioles and bronchi with their associated vascular and lymphatic vessels. The architecture of the interstitium produces a flow of fluid, cells, and debris from the distal gas exchange regions towards the proximal draining vessels and lymph nodes. Its elastic nature is an important component of lung mechanics. Widespread inflammation of the lung interstitium can impair blood oxygenation and the work of breathing. There are well over 100 known and unknown conditions involving diffuse inflammation of the

This review focuses on a group of interstitial lung diseases (ILD) that constitute the majority of the cases seen by primary care specialists and that are thought to be primarily or entirely autoimmune in nature: sarcoidosis, idiopathic pulmonary fibrosis, bronchiolitis obliterans with organizing pneumonia, collagen vascular-associated ILD, and eosinophilic granuloma of the lung.

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lung interstitium that are collectively termed interstitial lung diseases (ILD). This review focuses on a group of ILD that constitute the majority of the cases seen by primary care specialists and that are thought to be primarily or entirely autoimmune in nature. The diseases discussed are sarcoidosis, idiopathic pulmonary fibrosis, bronchiolitis obliterans with organizing pneumonia, collagen vascular-associated ILD, and eosinophilic granuloma of the lung.

Assessment

History and Physical Exam^{1,2}

Symptoms in ILD are nonspecific and apply to all ILDs whether of occupational, environmental, or autoimmune origin. Breathlessness and a nonproductive cough are the most common symptoms. Complaints of arthralgia, joint stiffness, and skin rash associated with a connective tissue disorder may give a clue to the etiology of the interstitial lung process. A positive occupational and environmental his-

tory may yield an organic or inorganic "dust" etiology as the cause of ILD. Details concerning travel, hobbies, pets, and medications may suggest a specific entity. Drugs such as nitrofurantoin, bleomycin, methotrexate, and cyclophosphamide can produce pulmonary fibrosis.

Physical signs of ILD are usually confined to the chest, but other signs of the underlying cause may occur concurrently. Crackles with a "Velcro" quality are characteristic and are much more common in the nongranulomatous fibrosing disorders. Signs of consolidation are absent, and wheezing is rare unless there is concurrent endobronchial involvement. Changes in the skin may point to specific etiologies. For example, a malar rash is characteristic of systemic lupus erythematosus; hidebound skin and pitting on the tips of the fingers point to scleroderma; symmetrical redness, swelling, and tenderness of the hand and wrist joints are consistent with rheumatoid arthritis; erythema nodosum is seen with sarcoidosis. Digital clubbing is indicative of advanced disease and, excluding non-pulmonary causes, is usually a clear indication of idiopathic pulmonary fibrosis (IPF). In the late stages of ILD, tachypnea at rest, cyanosis, and right heart failure develop.

Diagnostic Studies

Blood Studies^{2,3}

Serologic tests are not pathognomonic for ILD and serve only to support the diagnosis. Positive rheumatoid factor and anti-nuclear antibodies suggest a collagen vascular disorder but can be found in low titers in IPF without associated collagen vascular disease. Antibodies to organic dusts and animal proteins may be useful in pinning down the etiology in hypersensitivity pneumonitis. Any of these antibodies can be found in healthy individuals, and simply indicate exposure

to a specific antigen. Low levels of complement components 3 and 4 are usually associated with systemic lupus erythematosus but may be found in other ILDs. If one is considering a pulmonary vasculitic process, especially in the presence of renal impairment, ant basement membrane antibodies strongly support a diagnosis of Goodpasture's syndrome and a positive test for antineutrophil cytoplasmic antibodies suggests Wegener's granulomatosis.

Blood tests for serum angiotensin converting enzyme and serum lysozyme were developed in the 1970s to diagnose sarcoidosis. Although the increased concentrations of these enzymes are nonspecific indicators of disease activity, measurement of these enzymes is not recommended for the diagnosis of sarcoidosis because of significant elevations in other diseases.

Radiology^{2,4-6}

Chest radiography remains one of the best and most cost-effective means of establishing and following an interstitial inflammatory or fibrotic process. Bilateral hilar adenopathy with or without parenchymal infiltrates is strongly suggestive of sarcoidosis; however, 25% of young patients and 59% of patients over 50 years old with sarcoidosis have atypical findings on chest radiography suggesting infection or neoplasia. The majority of patients with nongranulomatous ILD have radiographic abnormalities showing reticular or reticulonodular infiltrates that characteristically involve the lower lung zones. Sarcoidosis, which involves the upper lobes, and eosinophilic granuloma (histiocytosis X), which shows a characteristic sparing of the costophrenic angles are exceptions. Initially, interstitial markings can be subtle and difficult to appreciate except on high quality films. Later in the illness, loss of lung volume and the appearance of coarse, cystic, honeycombed abnormalities

convey a poor prognosis. Chest radiographs are normal in about 10% of symptomatic individuals who are finally diagnosed with ILD. In these cases, dyspnea without airflow obstruction should make one suspect ILD, with primary pulmonary hypertension as an alternative consideration.

Gallium-67 lung scanning has limited use in the assessment and monitoring of lung inflammatory activity in ILD. Gallium scanning reveals only nonspecific inflammation, is costly, and produces a substantial radiation exposure (similar to fluoroscopic GI study). A negative gallium lung scan, however, may be helpful in making the decision to discontinue therapy when other measures of disease activity are equivocal. Computerized tomography (CT) of the chest is more sensitive than conventional chest radiography and gives a better resolution of the parenchyma, mediastinum, and pleura. This procedure may be useful in cases where the chest film is normal or questionable for an interstitial process. The advent of high resolution thin-slice CT has increased the sensitivity of this procedure and may also provide a greater degree of specificity in the assessment of ILD.

Pulmonary Function Tests⁵

Pulmonary function testing (PFT) should be performed in all cases of suspected ILD and demonstrates a restrictive lung impairment when ILD is present. Forced vital capacity (FVC) may be normal in the early stages of ILD but decreases as the disease progresses. Forced expiratory volume in one second (FEV₁) is normal initially and in fact may increase during the early stages of disease due to the higher elastic recoil of the lung. The early changes in ILD thus may yield a higher than normal ratio of FEV₁ to FVC, which is compatible with mechanical restriction. However, measurement of lung volumes is required to dem-

strate a restrictive lung impairment. Total lung capacity, forced residual capacity, and residual volume are all decreased in ILD. A mixed restrictive and obstructive impairment may be found when there is endobronchial involvement, as is sometimes seen in sarcoidosis or coexistent obstructive disease, such as asthma or chronic obstructive pulmonary disease (COPD). Gas transfer measured as the diffusing capacity for carbon monoxide (DLCO) is decreased in ILD primarily by damage to gas-exchanging alveolar "units" and to a lesser extent by an increase in the diffusion path for gas exchange due to inflammation and thickening of alveolar walls. A decreased DLCO is nearly always present and can precede alterations in lung volumes. Arterial blood gases may reveal hypoxemia and oxygen desaturation at rest or with exercise. Retention of carbon dioxide is rare in ILD and is found only in end-stage disease when ventilation is severely compromised.

Invasive Procedures

Fiberoptic Bronchoscopy⁷⁻¹⁰

Flexible fiberoptic bronchoscopy with transbronchial lung biopsy (TBLB) is usually the first invasive diagnostic procedure performed in the assessment of ILD. Following inspection of the airways, which is typically normal, a radiographically abnormal region of one lung is selected for TBLB. Four specimens from an involved lung are taken for histologic examination and for cultures when indicated. A major limitation of TBLB is the small amount of tissue that can be obtained; however, the success rate of TBLB is high in granulomatous ILD, and sarcoidosis can be diagnosed 60%-100% of the time using this technique.

Bronchoalveolar lavage (BAL) performed through the flexible bronchoscope is a useful research tool for obtaining alveolar lining

fluids and cells for the study of the cellular and molecular mechanisms in ILD. Bronchoalveolar lavage is not universally accepted as a clinical procedure, but some findings using this technique have proved to be useful in the assessment of ILD. The granulomatous disorders of sarcoidosis and hypersensitivity pneumonitis have high BAL lymphocyte counts, whereas the nongranulomatous ILD, IPF in particular, have high BAL neutrophil counts. More recently, investigators have noted that the presence of eosinophils in BAL fluid from patients with IPF portends a poor outcome, while recovery of lymphocytes suggests a better response to therapy.

Open Lung Biopsy¹¹

Open lung biopsy (OLB) is the "gold standard" procedure for obtaining a tissue diagnosis in ILD. Additional information may be gathered by finding granulomas, pleural scarring, or abnormal lymph nodes during the surgical procedure. The surgeon should attempt to sample an area of "average" involvement. Small specimens taken from dependent lung should be avoided because nonspecific fibrosis can be seen in normal lungs. Despite its many advantages over bronchoscopy with TBLB, OLB should be used selectively because of the expense and risks of general anesthesia and surgery. However, open lung biopsy can be cost effective when the cause of ILD is obscure and a long workup is anticipated. Some patients may not accept empiric therapy for an undiagnosed interstitial lung process and are willing to undergo the risks of OLB. Finally, if there is no response to therapy, OLB may still be done to determine if the original diagnosis was correct or whether the treatment should be changed.

Sarcoidosis

Sarcoidosis^{3, 12} is a multisystemic granulomatous disease of un-

known etiology that involves the lungs in most cases. Radiographic staging of the pulmonary disease is important as a predictor of the clinical course. A stage 1 radiograph (bilateral hilaradenopathy alone — 50% of patients) is predictive of spontaneous resolution in 65% of cases. Patients with stage 2 (adenopathy and infiltrates — 35% of patients) and stage 3 (infiltrates alone — 14% of patients) radiographs have a 49% and 20% chance of spontaneous resolution, respectively.

A biopsy should be obtained when a question exists about the diagnosis and when treatment will be based on the results. Potential sites for biopsy in order of invasiveness include: (1) conjunctival nodules; (2) enlarged lacrimal or parotid glands; (3) cutaneous lesions-nodules, etc. (not erythema nodosum); (4) palpable lymph nodes; (5) lung tissue by TBLB; (6) liver; (7) mediastinal nodes; and (8) lung tissue by open lung biopsy.

Treatment is mandatory with progressive or symptomatic pulmonary disease, ocular, CNS, or myocardial sarcoid, hypercalcemia, hypersplenism, or disabling constitutional complaints. Relative indications for treatment include cutaneous sarcoid, hepatic disease, adenopathy, and arthropathy. Corticosteroids are the mainstay of treatment in sarcoidosis. In the event of strict contraindication to steroids or steroid unresponsiveness, methotrexate or chlorambucil may be helpful. When the indication for treatment is skin disease, antimalarials are especially useful.

Idiopathic Pulmonary Fibrosis

Idiopathic pulmonary fibrosis or cryptogenic fibrosing alveolitis^{5, 13} is one of the more common causes of interstitial lung disease and usually presents in patients 40 to 70 years of age with dyspnea on exertion and dry cough. Occasional patients have malaise, arthralgias, or low grade fever that can suggest

an associated collagen vascular disorder.

Open lung biopsy is usually necessary for a confident diagnosis of IPF because a large amount of tissue is needed to characterize the predominant inflammatory process. A mononuclear alveolitis containing macrophages, lymphocytes, and alveolar type II cells (desquamative interstitial pneumonitis) indicates a better prognosis than edema of the alveolar walls with a fibrinous alveolar exudate, continued mononuclear infiltration, and fibroblast proliferation (usually interstitial pneumonitis). Obliteration of the normal lung architecture by collagenous replacement (fibrosis) characterizes end-stage IPF.

Initial treatment of IPF with corticosteroids usually results in $\frac{1}{4}$ to $\frac{1}{2}$ of patients stabilizing or improving. Despite continued corticosteroid therapy, some patients have flares that require treatment intensification and sometimes necessitate therapy for an indefinite period. When corticosteroids are not effective or cause intolerable side effects, cytotoxic therapy may be useful. Most clinicians now use cyclophosphamide combined with low dose prednisone. Unfortunately, cyclophosphamide may produce leukopenia, increased susceptibility to infection, hemorrhagic cystitis, interstitial pneumonitis, gastrointestinal symptoms, infertility, and malignancy.

Bronchiolitis Obliterans with Organizing Pneumonia

Bronchiolitis obliterans^{14, 15} with organizing pneumonia (BOOP) is a partially interstitial, partially intra-alveolar, and partially small airway disorder that has been incorrectly diagnosed as IPF or COPD in some patients. Bronchiolitis obliterans can be seen in a number of settings including toxic fume inhalation (i.e., oxides of nitrogen), viral infections, collagen vascular disorders, and in conjunction with other

lung diseases such as IPF or hypersensitivity pneumonitis. A thorough history will usually identify these causes of BOOP. However, there is a group of patients with idiopathic BOOP in whom an OLB is required to distinguish their disease from IPF.

Patients with BOOP are usually in their 50s. The onset of the illness is frequently abrupt with a dry cough and dyspnea and fever, malaise, and fatigue are more common than with IPF. Physical examination sometimes shows rales, often associated with wheezes. Clubbing, which is common in IPF, is absent. The chest radiograph typically shows bilateral, patchy, alveolar or ground-glass infiltrates in contrast to the interstitial infiltrates seen in IPF. Lung function tests show obstruction, restriction, or a mixed pattern with a decreased diffusing capacity and hypoxemia.

Treatment with corticosteroids has been quite successful, and many patients respond dramatically within days of starting therapy. When steroids are withdrawn, however, many patients relapse and experience, recurrent, systemic symptoms, infiltrates, and hypoxemia.

Collagen Vascular Disorders

Collagen vascular disorders^{16, 17} are characterized by an autoimmune inflammatory process directed against structural cartilaginous, elastic, and vascular tissues. Specific entities are named for the predominant tissues involved. All may involve the lung and/or pleura to varying degrees.

Systemic Lupus Erythematosus

Systemic lupus erythematosus (SLE) is one of the most prevalent connective tissue disorders, especially in black women of child-bearing age. As many as 18% of cases, however, occur after the fifth decade of life. Drug-induced SLE is typically seen in elderly patients with heart disease. Hydralazine,

procainamide, isoniazid, phenytoin, quinidine, methyldopa, and several of the beta-blocking agents are commonly incriminated drugs.

Pleuropulmonary complications of primary and drug-induced SLE are quite frequent (38% to 89%) but often must be differentiated from infections. Atelectasis, acute lupus pneumonitis, interstitial disease, and massive hemorrhage are other common clinical problems. Interstitial lung disease is less common in SLE than in some of the other types of collagen vascular diseases and is less common than the other pleuropulmonary complications of SLE. Many patients exhibit functional abnormalities on PFTs (decreased diffusion capacity, restrictive defects) but have little in the way of symptoms or signs. The chest radiograph may show increased interstitial markings and other SLE related problems such as pleural effusion. Treatment is with corticosteroids, sometimes in conjunction with cytotoxic agents such as cyclophosphamide or azathioprine.

Rheumatoid Arthritis

Despite the increased female preponderance of rheumatoid arthritis, there is a higher incidence of pleuropulmonary complications in males. Pleuropulmonary complications are clinically apparent in approximately 50% of cases, though a much higher percentage have pathologic involvement. In occasional cases, the thoracic involvement is apparent before the articular disease, making the diagnosis of rheumatoid-associated pneumonitis difficult. Pulmonary problems in rheumatoid arthritis are usually associated with active arthritis, high titers of rheumatoid factor, circulating immune complexes, and cryoglobulinemia.

Diffuse interstitial pneumonitis and fibrosis is the most serious pulmonary parenchymal problem in rheumatoid arthritis. The chest radiograph evolves from fine nodu-

ity to coarse reticulation and finally to a honeycombed pattern. In patients with interstitial disease, a trial of treatment with corticosteroids is indicated if a cellular biopsy or progressive symptoms are present.

Progressive Systemic Sclerosis

Progressive systemic sclerosis (PSS or scleroderma) is a disorder predominantly of women between the fourth and sixth decade of life. The prognosis is unfavorable, especially in blacks and men and in those with pulmonary disease. Pulmonary complications, especially PFTs, are quite frequent in PSS, occurring in as many as 90% of patients based on PFTs or lung histology. Interstitial lung disease in PSS is characterized by basilar reticular or reticulonodular infiltrates that become coarser as the disease progresses. The radiographs may show loss of lung volume over time, and pneumothorax may occur. Evidence of pulmonary hypertension may be greater than would be expected from the degree of radiographic abnormality or pulmonary function disturbance, especially when Raynaud's phenomenon is part of the clinical syndrome. Corticosteroids are not thought to be useful in the interstitial lung disease associated with PSS.

Polymyositis and Dermatomyositis

Polymyositis and dermatomyositis are characterized by weakness and sometimes pain in proximal limb and neck muscles, occasionally associated with skin rash (dermatomyositis and neoplasm). Respiratory failure due to respiratory muscle weakness and aspiration secondary to posterior pharyngeal and proximal esophageal weakness are the most frequent pulmonary problems. Interstitial lung disease is seen in a minority of cases and responds well to corticosteroid therapy.

Sjögren's Syndrome

Sjögren's syndrome is comprised of the triad of keratoconjunctivitis sicca, xerostomia, and recurrent swelling of the parotid glands and is often associated with other connective tissue diseases (60%). Primary Sjögren's syndrome is associated frequently with pleuropulmonary problems. Thoracic problems related directly to the Sjögren's syndrome include interstitial infiltrates, often lymphocytic in nature, pleurisy with or without effusion, follicular, bronchiolitis, and desiccation of the tracheobronchial tree producing recurrent bronchitis/pneumonitis, and bronchiectasis.

Dyspnea is the primary symptom in Sjögren's syndrome. The chest radiograph can show an interstitial infiltrate with a prominent nodular component. Histologically, these infiltrates represent lymphoplasmacytic infiltrates that can be difficult to differentiate from lymphoma. The interstitial lung disease associated with Sjögren's syndrome usually responds to corticosteroids.

Mixed Connective Tissue Disease

In the last few years, several reports have described a group of patients with features of SLE, PSS, and polymyositis. A hallmark of these patients is the presence of high titer antibodies to extractable nuclear antigen (anti-nRNP). Initially, this syndrome was thought to be a benign disease with good response to steroids. More recently, case reports demonstrating a more aggressive course have been published, some with fatal diffuse interstitial lung disease or pulmonary hypertension.

Eosinophilic Granuloma of the Lung

Eosinophilic granuloma (EG) or histiocytosis X¹⁸⁻²⁰ is a disease of young to middle age adults. Nearly all reported cases occur in Cau-

sians, most of whom are smokers. The lung lesions of EG are patchy, nodular, stellate lesions, sometimes involving the visceral pleura, and centering on small airways. The lesions are composed of histiocytes (HX cells) and variable numbers of eosinophils, plasma cells, and lymphocytes. In progressive disease, the focal lesions and fibrosis become confluent forming large areas of honeycombing.

Chest radiographs show micro- and macronodular lesions that favor the mid- and upper lung zones and spare the costophrenic angles. Pneumothorax is occasionally seen, but pleural effusions and hilar/mediastinal adenopathy are rare. The diagnosis should be suggested by the asymptomatic presentation or presentation with pneumothorax of a young person with a diffuse nodular abnormality more prominent in the upper lung fields. Specific diagnosis can be made by open lung biopsy with special stains or with electron microscopy looking for characteristic X-bodies (Birbeck granules).

Men with EG-associated diabetes insipidus have the worst prognosis. Good prognostic signs include sparing of the costophrenic angles, mixed alveolar and interstitial infiltrates, and a cellular biopsy. No controlled studies have been performed to define the best treatment. Several cases reported in the literature appear to have responded to steroids.

Summary

Interstitial lung diseases pose a great challenge to the clinician because of the indolent and variably active nature of these disorders and the limited number of therapeutic options. Adjunctive therapy includes supplemental oxygen in hypoxic patients, bronchodilators in patients with an obstructive lung component, and aggressive use of antibiotics in febrile patients on potent immunosuppressive therapy and suspected or confirmed infec-

tions. In younger patients who present late in their illness or deteriorate on therapy, lung transplantation is the only option. Recent advances in our knowledge of the cellular and molecular mechanisms operating in ILD and techniques which include gene amplification and cloning promise to yield more effective treatments for these diseases which currently produce a high incidence of morbidity and mortality.

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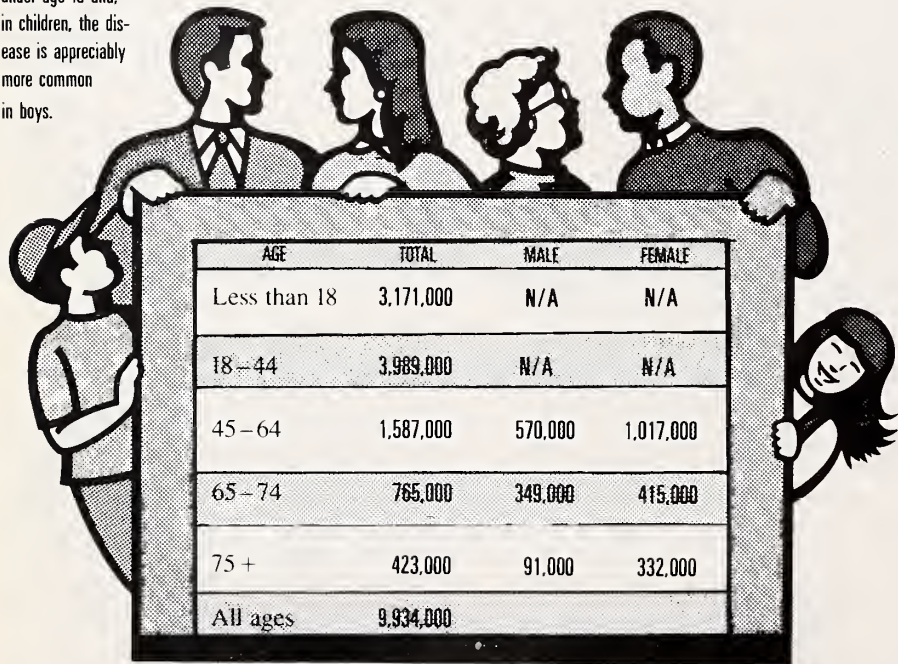
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ASTHMA HITS BOYS AND GIRLS, MEN AND WOMEN OF ALL AGES

Estimated number of total U.S. asthma cases in 1988

Total asthma cases in the U.S. have been rising steadily since 1970. Almost one out of three asthmatics is under age 18 and, in children, the disease is appreciably more common in boys.



Estimates of 136,000 and less have a relative standard error of 30 percent.

Source: National Center for Health Statistics, National Health Interview Survey, 1988

Chart: American Lung Association® — The Christmas Seal People®

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Asthma in the Adult: Management in the '90s

Eric G. Honig, M.D.

Definition

Asthma is a disease that can be characterized by airflow obstruction or airway narrowing that reverses either spontaneously or with treatment, by bronchial hyperreactivity, and by airway inflammation. The major development in asthma research over the last 5 years has been the growing recognition that asthma is a chronic inflammatory disease of the airway, with bronchospasm as its clinical expression rather than the disease itself. The implication of this work is to redirect the therapeutic focus in asthma from episodic bronchospasm to the underlying inflammatory state.^{1,2}

National Asthma Education Program

Because of the accumulating scientific evidence, the National Heart Lung and Blood Institute recently published *Guidelines for the Diagnosis and Management of Asthma* as part of the National Asthma Education Program (NAEP). The *Guidelines* are intended "to as-

The major development in asthma research over the last 5 years has been the growing recognition that asthma is a chronic inflammatory disease of the airway, with bronchospasm as its clinical expression rather than the disease itself.

sist clinician and patient decisions about appropriate asthma care" and "are not to be construed as either an official regulatory document or as a document that has been endorsed by the United States Food and Drug

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Administration."³ They nonetheless constitute an important basis from which the clinician may begin to tailor an effective regimen for individual patients. The NAEP recommends a 4-pronged approach to the management of asthma:

- Objective measurements of lung function to assess disease severity and response to therapy
- Comprehensive pharmacotherapy directed against airway inflammation as well as the symptom of bronchospasm
- Environmental control to reduce exposure to triggering factors
- Attention to patient and family education.

Measurement

Because patients and their physicians tend to underestimate the severity of an acute asthma attack, the NAEP recommends regular monitoring of pulmonary function by office spirometry and by home peak flow monitoring. Spirometry should ideally be done at every office visit and at least annually. A

respiratory peak flow meter is simple to use, inexpensive (\$15-45), reproducible, and reliable. Asthmatic patients should be given a peak flow meter, instructed to use it regularly, and to keep a diary of peak flow rates (PEFR) to be reviewed with the physician at every office visit. Peak flows are assessed on the basis of predicted normals or the best peak flow a patient can achieve when their asthma is in remission. A traffic light analogy is used for interpretation and therapeutic planning.

Green (80-100% of target) indicates all clear and indicates that routine medication plans may be followed. Yellow (50-80% of target) indicates caution, suggesting either an acute exacerbation or inadequate maintenance therapy and that intensification of therapy is needed. Red (below 50% target) points to an impending crisis and suggests immediate bronchodilator therapy and prompt medical attention if initial efforts do not return flows to the green or yellow zones.

Pharmacotherapy

Acute Asthma

A series of articles from Brigham and Women's Hospitals in the early 1980s by Fanta⁴ and Rossing et al.⁵ demonstrated that beta agonists were superior to intravenous aminophylline and that the effects of beta agonists were comparable whether given by the inhaled or intramuscular routes, irrespective of the severity of illness. They found that aminophylline added little to beta agonists. They further demonstrated that corticosteroids produced significant improvement in airway function after a delay of 6-12 hours.

There probably is little to choose from among the beta agonists currently available on the market. Ideally, inhaled beta agonists should be given repeatedly at intervals of 20-60 minutes with objective measurement of airflow by spirometry or

PEFR assessment until the response has reached a plateau. A disposition decision may be made at that time. Subcutaneous epinephrine may be effective in some patients who do not respond adequately to inhaled beta agents. Tremor may be a symptomatically limiting factor and hypokalemia represents a possible risk.

Several studies have shown that a metered-dose inhaler (MDI) with a spacer device produces a therapeutic response that is the same as that obtained from a pressure-driven nebulizer.⁶ This allows a considerable savings in equipment and personnel costs.

Corticosteroids should probably be given to all acute asthma patients presenting to the emergency room, since steroids have been shown not only to affect favorably the outcome for hospitalized patients but also to decrease significantly the number of early relapses, especially in patients with significant impairment of pulmonary function at the time of emergency room discharge.⁷ Once therapeutic plasma cortisol levels have been established with intravenous corticosteroids, there is little advantage to the intravenous route, and oral prednisone or methylprednisolone can be substituted for inpatients after the first day.

Some troubling data support the suspicion that beta agonists may be involved in the increase in asthma mortality and suggest that p.r.n. use of beta adrenergic preparations may be more desirable than round-the-clock use.

Theophylline preparations have shown no independent benefit in the emergency management of acute asthma.⁸ Their use is no longer recommended by the NAEP group, although the group does suggest using theophylline for hospitalized patients, recommending oral rather than parenteral preparations.

Anticholinergic agents have recently been studied as potential anti-asthma therapy. Most papers have shown anticholinergics to be comparable to beta agonists but have not shown superiority. Synergism between beta agonists and anticholinergic agents has been an inconsistent finding. Glycopyrrolate (Robinul), 1-2 mg, represents a nebulizable alternative to atropine or ipratropium Br (Atrovent) until the latter becomes available in a nebulizable form. The relatively delayed onset of action (30-60 minutes) probably precludes the first line use of anticholinergics in the emergency room but the NAEP suggests that there may be some benefit for hospitalized patients.

Magnesium sulfate ($MgSO_4$) has attracted recent attention as a potential bronchodilator for emergency use. 1.2-1.5 gm intravenously over 20 minutes produces significant bronchodilatation, may increase beta adrenergic receptor response, and may help avoid admissions in patients failing to respond to beta adrenergic agonists. Blood pressure and heart rate are lower in $MgSO_4$ -treated asthmatics, and side effects are minor and well-tolerated. The therapeutic effect of $MgSO_4$, however, is brief, limiting its clinical usefulness.¹⁰

Hypoxia is a common consequence of the acute asthmatic attack and may contribute to potentially life-threatening arrhythmias. The NAEP recommends monitoring oxygen saturations and administering oxygen whenever saturations fall below 90%. In the absence of monitoring, supplemental oxygen

ould be given to all acute asthma patients.

Stable Asthma

The recent literature strongly supports the thesis that the primary therapy for asthma is anti-inflammatory and that bronchodilators be used for symptomatic management only. Some troubling data support the suspicion that beta agonists may be involved in the increase in asthma mortality and suggest that p.r.n. use of beta adrenergic preparations may be more desirable than around-the-clock use.

Corticosteroids represent the primary modality of anti-inflammatory therapy, and the MDI is the route of choice. Inhaled corticosteroids should be instituted as first-line asthma therapy for any asthma patient who requires regular as opposed to strictly p.r.n. medication for symptom control. In the last few years, it has been recognized that higher doses than recommended in the manufacturer's package insert are necessary for a therapeutic effect.¹¹ Four inhalations four times daily of beclomethasone or triamcinolone, or four inhalations twice daily of flunisolide, represent reasonable starting doses. The number of inhalations required and a delay of weeks to several months before a therapeutic effect becomes evident post potential risks for noncompliance. Patients should be appropriately counselled. More concentrated preparations requiring fewer inhalations per day should reach the American market in the next few years.

Although the systemic absorption of inhaled steroid preparations is low, regular use of these medications is equivalent to 5-15 mg oral prednisone per day. Loss of bone matrix has been demonstrated, and calcium supplementation is advised for patients at risk for osteoporosis. Thrush and dysphonia are high risks for inhaled steroid users,

and mouthwashing after use must be emphasized. The use of spacer devices significantly reduces these risks. Cataracts, hypertension, dermal thinning, and exacerbation of diabetes have been encountered only anecdotally.

Oral corticosteroids are helpful in the short-term management of acute exacerbations. They should be used in doses of 1-2 mg/kg/day for 3 days. Reassessment of continued need should be made at 3 days since, in many cases, only a short burst of oral steroid will suffice. Once the episode is under control, the medication may be stopped. As long as the duration of oral steroid use remains under 3-4 weeks, a tapering course is not necessary. The occasional severe asthmatic will exhibit steroid dependence, defined as the predictable occurrence of an asthmatic exacerbation whenever the daily oral steroid dose falls below a certain level. The steroid-dependent asthmatic is a high-risk patient liable to the adverse effects of oral steroids.

Loss of bone matrix has been demonstrated in persons who regularly use inhaled steroid preparations; calcium supplementation is advised for those at risk for osteoporosis.

Every effort should be made to determine whether a patient is truly steroid dependent and to use the lowest dose that will control symptoms. Attempts should be made to decrease the daily dose requirement by employing high dose inhaled steroids, or by steroid-sparing or anti-inflammatory preparations such as troleandomycin, methotrexate, or gold and by alternate-day

steroid therapy whenever possible.

Mullarkey et al.¹² in 1988 suggested that low doses of methotrexate (15 mg/wk) had significant steroid-sparing effects in steroid dependent asthmatics. Mullarkey extended his data in a recent series,¹³ and supporting data have come from Britain.¹⁴ At the same time, however, a negative study appeared from Colorado.¹⁵ Questions remain as to whether a significant benefit from methotrexate persists beyond the duration of methotrexate therapy or will be seen when the same level of attention and care is given to conventionally treated patients as to those given methotrexate. The current consensus is that methotrexate is an experimental therapy best used within the confines of a clinical trial.

Cromolyn sodium (DSCG) is available for inhalation in dry powder, metered-dose inhaler, and nebulizable forms. No oral equivalent is currently available in the United States. The mode of action of DSCG is still not well understood, but it is known to block the early and late-phase asthmatic reactions as well as exercise-induced asthma. DSCG is not effective in all asthmatic patients, but a 4-6 week therapeutic trial is usually warranted.¹⁶

Beta adrenergic agonists have been the first line of asthma therapy for the past decade. With pharmacologic potency, a rapid (5-15 minute) onset of action and relative beta-two selectivity, these agents have formed the basis for acute and chronic asthma care. Inhaled beta agonists in general have been preferred to oral preparations because of a better side effect profile and greater potency. However, some limitations of beta agonists as anti-asthma agents have become apparent.

Although local potency and side-effect profiles favor the use of inhaled as opposed to oral beta ag-

onists, many patients have a great deal of difficulty in mastering the MDI. More than half the patients presenting to an outpatient setting may have suboptimal drug delivery due to faulty inhaler technique. While the majority can master proper technique with instruction, a sizable proportion will have problems on subsequent visits. Inhaler technique must be regularly reassessed and reinforced.¹⁷ Patients should be observed to make sure that there is a single activation of the MDI followed by a slow full inspiration and a 6-10 second breath hold for each puff. Some patients will remain unable to master an MDI. These patients may benefit from a spacer device which both increases drug delivery and reduces the need for coordination in using an MDI. Home nebulizers should be reserved for those patients who cannot master an MDI even with a spacer or whose disease remains poorly controlled.

Currently available inhaled beta agonists have a relatively short duration of action, 4-6 hours, and will not suffice to control nocturnal asthma symptoms. Until agents with longer profiles become available in the United States, oral sustained-release beta adrenergic preparations or sustained-release theophylline can be used to control nocturnal asthma symptoms.

Recent data suggests that beta agonists may be as much a part of the asthma problem as a remedy. It has been customary to prescribe beta adrenergic agonists on a round-the-clock basis as well as p.r.n. Sears et al.¹⁸ call this practice into question. They compared the effectiveness of asthma control between q.i.d. inhaled dry powder fenoterol and placebo added to a regimen of inhaled steroids, cromolyn, and ad lib use of a beta-adrenergic MDI. They found patients had better asthma control during the placebo period, and their airways were more reactive while taking the beta agonist. The authors concluded that

p.r.n. use of a beta MDI provides superior control to round-the-clock dosing.

Theophyllines were the primary mode of asthma therapy in the United States before beta adrenergic agonists. They now occupy a second- or third-line status. Theophyllines are mild-to-moderately effective bronchodilators with a relatively narrow therapeutic window of plasma theophylline levels of 10-15 mg/L plasma. A number of significant drug interactions and physiologic variables make theophylline clearance rates difficult to predict and necessitate regular monitoring of theophylline levels. Nevertheless, theophyllines have a smooth and prolonged effect, may have some anti-inflammatory activity, and are particularly effective for the management of nocturnal asthma symptoms. A bedtime dose of a sustained-release theophylline preparation will produce peak levels at 4-6 a.m., when circadian rhythms seem to produce the most severe nighttime wheezing.¹⁹

Environmental Control

The NAEP makes specific recommendations regarding environmental management in asthmatics including recognition of patients with primarily allergic asthma and counselling avoidance of known triggers where possible, especially animal proteins, house dust mites, roaches, and molds. The guidelines favor the use of air conditioning and advise caution in the use of home humidifiers and vacuum cleaners. They further recommend immunotherapy when pharmacologic management is unsatisfactory.

Education

Patient education is an important aspect of care. It is important that patients understand their disease, especially the chronic nature of the process and the need for regular

The current consensus is that methotrexate is an experimental therapy best used within the confines of a clinical trial.

medication and follow up. Patient should be provided with explicit plans for management of their chronic condition, for contingency management plans based on symptoms and PEF diaries, and especially for management of severe exacerbations and impending emergencies. Patients and their families should have a clear understanding about what actually constitutes an emergency situation, whom to contact, and when and where to go in case of respiratory distress. Written guidelines, criteria, and instructions should be provided whenever possible.

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Recent Advances in Mechanical Ventilatory Support for Adults

M. Christine Stock, M.D.

TWO CLINICAL situations in which conventional ventilatory support performs poorly are patients with ventilatory muscle fatigue and those with acute lung injury. This article will focus on alternate methods of ventilatory support for those suffering with these difficult clinical problems and will discuss three newer modes of mechanical ventilatory support for adults: pressure support ventilation (PSV), airway pressure release ventilation (APRV), and extracorporeal CO₂ removal (ECCO₂R). PSV will be discussed in more detail than the other modes because it is more widely available.

Pressure Support Ventilation

Since the advent of microprocessor-controlled mechanical ventilators, several new mechanical ventilatory "modes" have become available. Despite a paucity of investigation to delineate the efficacy and physiologic consequences of these new techniques, they have been marketed widely. One of these new modes, pressure support ven-

This article focuses on alternate methods of ventilatory support for those suffering with ventilatory muscle fatigue and acute lung injury and discusses three newer modes of mechanical ventilatory support.

tilation (PSV), offers unique advantages compared to conventional ventilatory modes and can be used in spontaneously breathing patients to overcome demand valve inertia and tracheal tube resistance.

Pressure support ventilation is flow-controlled, pressure-limited

positive-pressure ventilation. Every mechanical breath is triggered by the patient's inspiratory effort. When the ventilator detects inspiration, it delivers a gas flow sufficient to maintain a predetermined supra-ambient inspiratory airway pressure for as long as the patient continues to inspire. The ventilator continually monitors airway pressure and adjusts inspiratory flow to maintain the same pressure throughout the "plateau phase." When the inspiratory flow falls to 25% of the peak flow, inspiration ends. A microprocessed feedback loop assures a constant inspiratory plateau pressure. Thus, PSV generates the airway pressure and flow patterns depicted in Figure 1.

MacIntyre¹ studied ventilatory work requirements during unassisted and PSV pressure-assisted breathing with a two-compartment mechanical lung simulator. As the PSV level was increased, the spontaneous ventilatory rate was decreased so that a constant min-

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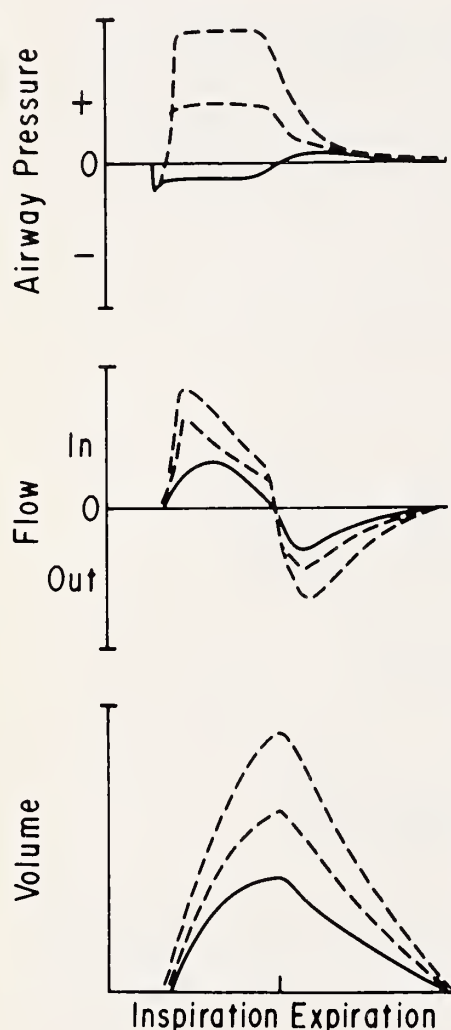


Figure 1 — Schematic diagram of airway pressure in the distal endotracheal tube (top panel), air flow (middle panel), and lung volume (lower panel) of a spontaneously breathing, intubated patient breathing with a demand valve. The horizontal axis depicts time. The solid line is an unassisted breath, whereas the dashed lines depict two levels of pressure-assisted ventilation with pressure support ventilation (PSV). Under all conditions, an initial negative airway pressure is required of the patient to open the demand valve and initiate flow. Thereafter, continued negative airway pressure is required of the unassisted patient to maintain flow and deliver gas. With PSV, however, a plateau is produced that augments the patient's inspiratory effort and increases flow and tidal volume. (From MacIntyre NR. Respiratory function during pressure support ventilation. *Chest* 1986;89:677-683. Reproduced with permission.)

ute ventilation was achieved at each combination of spontaneous minute ventilation and PSV augmentation. MacIntyre found that as the PSV plateau increased, alveolar ventilation was augmented. A slower spontaneous respiratory rate was achieved at the same level of minute ventilation, and the work of the muscle compartment decreased significantly.

In the same report, MacIntyre studied 15 stabilized patients who required mechanical ventilatory support in a medical intensive care unit. He compared synchronized intermittent mandatory ventilation (SIMV) with PSV. During SIMV, patients received tidal volumes of 10 to 15 ml/kg at a rate sufficient to maintain PaCO₂ below 50 mmHg.

The maximum PSV level (PSV-max) for each patient was defined as the PSV plateau pressure that resulted in the slowest, regular spontaneous respiratory rate. PSVmax ranged from 13 to 41 cmH₂O and resulted in tidal volumes that were similar to SIMV mechanical tidal volumes. PSVmax also produced a lower spontaneous ventilatory rate and lower peak and mean airway pressures than SIMV. There were no differences in hemodynamic variables between the two ventilatory modes. Eight of the nine patients who were fit to respond to questions communicated that PSVmax was "clearly more comfortable" than a comparable level of SIMV.

This study compared PSV with SIMV, which employs a demand valve that produces greater inspiratory work than spontaneous ventilation systems which employ a high continuous gas flow.² During SIMV, the patient must assume the work added by the demand valve. Therefore, it is not surprising that the work of breathing for both the lung model and patients is reduced by PSV by decreasing the breathing work imposed by the demand valve. MacIntyre's study shows that increased work caused by the demand valve can be alleviated by us-

ing PSV. Further, it defines the flow, pressure, and volume characteristics of the PSV mechanical breath.

Pressure support (PS) also can be used at low levels to attenuate or to eliminate the inspiratory work imposed by tracheal tube resistance. Fiastro³ demonstrated that smaller diameter tracheal tubes require higher PS levels because they have higher resistance (Table 1). For example, if a patient breathes spontaneously through an 8.0 mm ID tracheal tube, 6 cmH₂O PS will be needed to overcome tracheal tube resistance and demand valve inertia. These data, therefore, imply that if one is using PSV to wean a patient with an 8.0 mm ID tracheal tube from mechanical ventilation, weaning will be complete when PS level is 6 cmH₂O. The work that the ventilator performs at 6 cmH₂O should overcome only the work induced by the ventilator circuit. That is, the patient's work of breathing is independent of the tracheal tube and the ventilator should be the same as his work with the tracheal tube, demand valve, and 6 cmH₂O PS. Thus, low PS levels overcome the inspiratory breathing work for a spontaneously breathing patient induced by tracheal tube resistance and demand valve inertia.

As a primary, stand-alone mode of ventilatory support, PSV poorly serves the critically ill and unstable patient. If the patient fails to trigger the ventilator, no mechanical breaths are delivered. PSV is not an appropriate mode of support for patients who are not making spontaneous inspiratory efforts.

For patients whose ventilatory failure is complicated by respiratory muscle fatigue, PSV may offer unique advantages compared to weaning from ventilation with other available techniques. These patients' weaning courses are complicated by persistent respiratory muscle dysfunction that contributes to the inability to wean after

prolonged mechanical ventilatory support.⁴ They are at high risk for "refatiguing" already stressed ventilatory muscles.

Conventional weaning techniques using volume-cycled ventilators include T-piece trials or IMV-style weaning. Either of these techniques result in totally unsupported inspiratory efforts. The patient receives either mechanical breaths via IMV or breathes spontaneously through the T-piece, but the spontaneous breaths are without mechanical assistance. The pressure-volume product, or work expenditure of these unsupported breaths, is abnormally high, which reduces the efficiency of respiratory muscles, increasing muscle oxygen consumption for each breath,⁵ favoring muscle strength at the expense of endurance conditioning,⁶ predisposing to inspiratory muscle fatigue, and creating dyspnea. In contrast, support with PSV allows the clinician to reduce the total work of breathing per minute as well as the inspiratory work for each breath.^{7,8}

Brochard and coworkers⁷ demonstrated that patients recovering from ventilatory muscle fatigue and ventilatory failure could be weaned from mechanical ventilation using PSV without inducing further muscle fatigue. In addition, they observed that activity of the sternocleidomastoid muscle during resting spontaneous ventilation reflected the onset of ventilatory muscle fatigue. Therefore, when weaning patients from mechanical ventilation, contraction of the sternocleidomastoid muscle during inspiration can be a helpful warning of impending ventilatory muscle fatigue.

Primary Uses for PSV

The primary uses for PSV fall into three categories:

1. Low level PS (4 to 8 cmH₂O) used to overcome tracheal tube resistance and demand valve inertia

TABLE 1 Pressure support level required to overcome tracheal tube resistance and demand valve inertia based on tracheal tube internal diameter.³

Tracheal Tube Size (mm)	PSV Level (cmH ₂ O)
7.0	8
8.0	6
9.0	4

for spontaneously breathing patients (those receiving CPAP, IMV, SIMV).

Minimizing airway pressure while providing adequate alveolar ventilation is becoming a critical concern in the treatment of acute lung injury.

2. PSVmax to render full ventilatory support for patients who are hemodynamically stable and have reliable ventilatory drive. The PSV level required to fully support mechanical ventilation produces the equivalent of tidal volumes of 10-12 ml/kg, and the PSV level at which the spontaneous ventilatory rate is lowest, preferably 12 to 18 breaths/min.

3. For PSV-style weaning after full ventilatory support is achieved with PSVmax and no other positive pressure breaths. The level of PSV can be gradually decreased as long as the patient's respiratory rate remains low and the sternocleidomastoid muscle remains inactive during inspiration. Once the PSV level has been dropped to the minimal level necessary to overcome endotracheal tube resistance and demand valve inertia, the patient is ready to be weaned.

The primary limitations of PSV are that it requires a stable spontaneously breathing patient for appropriate clinical use. Additionally, the ventilatory circuit, including the patient's lungs, must be a closed system. Tracheal tube cuff leaks, for example, will create exceptionally high inspiratory flow requirements to achieve and maintain the PSV plateau pressure. Flows can be sufficiently high to cause serious barotrauma.⁹ Finally, the application of PSV requires one of the new-generation microprocessor-driven ventilators and is not available on older, simpler machines.

Alternate Modes of Ventilation on the Horizon

Airway Pressure Release Ventilation (APRV).

One of the most serious problems in the ventilator management of acute lung injury (ALI, adult respiratory distress syndrome) is barotrauma, the damage done to tissues by high airway and alveolar pressures delivered by the machine. Minimizing airway pressure while providing adequate alveolar ventilation is becoming a critical concern in the treatment of ALI. Airway pressure release ventilation is a continuous positive airway pressure (CPAP) system that mechanically ventilates the lungs, providing brief CPAP interruptions that allow airway pressure to fall and gas to leave the lungs passively.^{10,11} This ventilatory mode was designed for

patients suffering from ALI to supply CPAP and augment ventilation at the minimal level necessary to support CO₂ elimination without excessively high peak airway pressures and without hemodynamic embarrassment.

One difference between conventional ventilation and APRV is that the expiratory time for APRV is only 1.5 seconds, creating a long inspiratory phase. Peak airway pressures during APRV never exceed the individual's CPAP level (a mean of 11 ± 1 cmH₂O ($\bar{X} \pm SD$), compared to mean peak airway pressures of 32 ± 4 cmH₂O for the same patients receiving conventional ventilation. APRV resulted in similar gas exchange and hemodynamic status compared to IMV with 5 cmH₂O CPAP in patients following cardiac operations.¹² These patients were weaned from mechanical ventilation with APRV by decreasing the number of APRV breaths/min they received as they recovered from narcotic anesthesia and neuromuscular blockade.

Räsänen and coworkers¹³ demonstrated that during severe ALI, APRV supported arterial oxygenation and reversed ventilatory failure, even in some patients who could not be successfully ventilated by conventional mechanical ventilation. Ventilation was achieved at mean airway pressures similar to conventional modes with CPAP/PEEP, but at significantly lower peak airway pressures. Thus, APRV is a promising mode which may help decrease barotrauma and cardiovascular embarrassment for patients requiring aggressive airway pressure therapy during ALI.

Extracorporeal CO₂ Removal (ECCO₂R).

An even more aggressive approach to the reduction of ventilator pressure uses the circulation rather than the lungs for CO₂ removal. Ventilatory support with ECCO₂R employs only venous ex-

tracorporeal circulation. Blood drains passively from a large vein into a reservoir, is pumped from the reservoir through the membrane lung, and then returns to the venous circulation. Venous ECCO₂R may be more successful than venoarterial extracorporeal membrane oxygenation (ECMO), because it does not decrease pulmonary perfusion nor is it subject to the complications associated with arterial perfusion.¹⁴

ECCO₂R can be performed through a single coaxial large-bore venous cannula. Cannulation of only one vessel should decrease the risk of bleeding, infection, and thrombosis. It requires passive drainage of at least 1.0 L/min blood from the venous circulation into a reservoir chamber. From the reservoir, a roller pump drives blood through the membrane lung. Approximately 20 to 30% of the cardiac output must flow continually through the membrane lung to achieve total ventilatory support. The humidified gas mixture (usually O₂ and/or air) that ventilates the membrane lungs is entrained, so that the membrane lung's gas compartment remains at subatmospheric pressure, thus minimizing the chance for air embolism. The ventilating gases and blood in the membrane lung are warmed to 37°C to preserve body heat.

Arterial oxygenation is achieved by employing low-level CPAP and apneic oxygenation, or by using low-frequency positive pressure ventilation. Low-frequency ventilation includes 2 to 4 mechanical breaths/min with tidal volumes of 10 to 15 ml/kg. Mechanical breaths are pressure-limited at 35 cmH₂O to reduce the risk of barotrauma. Alternatively, patients can receive apneic oxygenation and CPAP. A cannula delivers O₂ into the tracheal tube, and 5-10 cmH₂O CPAP is applied. Patients are usually paralyzed and anesthetized during supportive care. When the patient demonstrates improved lung-thorax

compliance and improved radiographic findings, anesthesia and muscle relaxation are discontinued and ECCO₂R is decreased slowly until the patient breathes spontaneously with CPAP only. This technique requires systemic heparinization with an activated clotting time approximately twice the control level.

Extracorporeal CO₂ removal with low-frequency positive-pressure ventilation uniquely separates the two gas exchange functions of the lungs. It allows the lungs to continue arterial oxygenation while employing the membrane lung in an extracorporeal venous circulation to extract CO₂ at the same rate at which it is produced.

Currently, controlled, prospective multi-institutional studies are underway in the US and Europe to determine ECCO₂R's efficacy. Gattinoni and coworkers¹⁵ have had encouraging results in their small, uncontrolled, uni-institutional studies. In their early series of 11 patients, seven experienced total recovery from acute lung injury, two patients experienced improved respiratory function but succumbed to septic shock, and two experienced

Extracorporeal CO₂ removal with low-frequency positive-pressure ventilation uniquely separates the two gas exchange functions of the lung.

normalization of gas exchange but no improvement in pulmonary mechanics. Thus, in a population where he expected 90% of his patients to die, seven of eleven survived.

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Obstructive Sleep Apnea Syndrome

Bashir A. Chaudhary, M.D., James K. Smith, M.D.

Introduction

THE DISCOVERY of nocturnal apneic episodes by polysomnographic recording in patients with the Pickwickian syndrome heralded the modern era of sleep-disorders medicine. During the past 2 decades, there has been a striking growth in the recognition of sleep apnea and other sleep-related disorders as well as widespread establishment of sleep laboratories across the country.

Sleep apnea is a chronic syndrome characterized by cessation (apnea) or severe reduction (hypopnea) of airflow during sleep. Three principal types of sleep apnea are recognized: obstructive, central, and mixed.¹ Obstructive apneas are the most common type and are characterized by cessation of oronasal airflow due to upper airway obstruction. Continued chest and abdominal movements occur in obstructive apnea and separate this form from central apnea. In central apneas, interrupted central

Sleep apnea has been found in about one-third of debilitated and hypertensive patients, and in the majority of hypothyroid patients. Obesity, upper airway abnormalities, and alcohol and sedative intake all increase the incidence.

ventilatory drive results in simultaneous cessation of airflow and respiratory efforts. Mixed apneas display features of both obstructive and central forms. Early in the apneic event, mixed apneas resemble the central form with cessation of

both airflow and respiratory efforts; later in the apnea, respiratory efforts resume and the apneas resemble the obstructive form. Frequently, mixed apneas are combined with obstructive apneas for calculations of the severity of sleep apnea. Table 1 defines the commonly accepted terms used in the diagnosis of sleep apnea.

Apnea frequency (apnea index >5 events per hour) has historically been used to define the sleep apnea syndrome. Because hypopneas can cause symptoms similar to apneas, it has recently been proposed that the syndrome be defined by an apnea plus hypopnea index of greater than 15 events per sleep hour. It is important that these objective data also be accompanied by clinical symptoms of the sleep apnea syndrome in order to establish the diagnosis.²

Prevalence

Sleep apnea is a common disorder, estimated to affect about 1-2% of the general population. The

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TABLE 1 — Definitions

Apnea:	Cessation of airflow for at least 10 seconds
Hypopnea:	Reduction in airflow associated with oxygen desaturation of at least 4%
Apnea Index:	Number of apneas per sleep hour
Hypopnea Index:	Number of hypopneas per sleep hour
Apnea-Hypopnea Index:	Number of apneas and hypopneas per sleep hour
Apnea-Sleep Ratio:	The percentage of sleep time spent in apneic state
Apnea-Hypopnea Sleep Ratio:	The percentage of sleep time spent in apneic and hypopneic states

incidence of apneas increases with age, the highest frequency occurring in males between 50 and 70 years of age.

Sleep apnea has been found in about one-third of debilitated and hypertensive patients, and in the majority of hypothyroid patients. Obesity, upper airway abnormalities, and alcohol and sedative intake all increase the incidence. There have been occasional reports of higher incidence in family members, but no genetic markers have been identified.

Pathogenesis

During apnea, the tongue and palate move toward, and eventually come in contact with, the posterior pharyngeal wall, resulting in occlusion of the upper airway. Airflow is linearly decreased as the pressure in the upper airway becomes negative. When the negative airway pressure exceeds a certain critical pressure (-13 cm H_2O in normals), airway occlusion occurs. Four interdependent factors play a role in upper airway collapse during sleep apneas: (1) narrowing of the pharyngeal cavity; (2) decreased activity of the upper airway muscle; (3) excessive compliance of the pharyngeal airway; and (4) elevated upstream airway resistance.³ The sleep apnea patient exhibits pharyngeal cavity narrowing because of upper airway anatomic

abnormalities and obesity. During inspiration when the muscle tone falls, the highly compliant upper airway muscles are pulled together. Increased nasal resistance contributes to pharyngeal closure by promoting more negative pharyngeal airway pressure.

When apnea occurs, hypoxemia and hypercapnia develop, causing arousal and resumption of breathing. Alcohol and sedatives depress upper airway muscle activity, promoting apneas.

Clinical Features

Patients with sleep apnea usually come to medical attention because of loud snoring, daytime hypersomnolence, or disturbed sleep. Falling asleep during periods of relative inactivity such as watching television, driving, or attending meetings is one of the most common presenting signs. In extreme cases, the patient may fall asleep even when engaged in activity (e.g., talking, working, and eating). Because of sleepiness, daytime performance deteriorates. At times, usually in the morning, patients may be disoriented and confused.

The reason for daytime hypersomnolence remains undefined. Sleepiness does not appear to be related to the patient's weight, severity of sleep apnea, degree of oxygen desaturation, or percent of sleep time spent in the deeper

stages of sleep. The best correlation of daytime hypersomnolence appears to be sleep fragmentation (i.e., arousal from sleep).⁴

Snoring is the most common symptom and is found in almost all patients. Disturbed nocturnal sleep characterized by frequent tossing and turning is very common. A choking sensation often repeatedly awakens the patient. Other common symptoms include morning headache, personality changes, hallucinations, diminished hearing, nocturia, and sweating.

Nocturnal bradycardia (HR 30-50 per min) is the most common arrhythmia during apneas. Tachycardia (HR 90-120 per min) is frequently observed during the resolution of an apneic event.⁵ Dar

Sustained pulmonary hypertension has been found in 10-20% of patients with obstructive sleep apnea, principally in those individuals with hypoxemia and hypercapnia during the day and severe oxygen desaturation at night.

gerous cardiac arrhythmias are uncommon in the absence of hypoxemia or underlying cardiac disease. Systemic hypertension is found in about 50% of the patients with sleep apnea. Transient elevation of blood pressure occurs during apneic episodes.

Pulmonary hypertension during apneic episodes is common. We have observed acute elevation of pulmonary artery pressure to levels approaching systemic pressures.⁷ Sustained pulmonary hypertension has been found in 10-20% of patients with obstructive sleep

apnea, principally in those individuals with hypoxemia and hypercapnia during the day and severe oxygen desaturation at night.⁸

Acute pulmonary edema has been described in patients with severe obstructive sleep apnea syndrome.⁹ Daytime cardiac function may be normal in these patients. Mechanisms that have been postulated to cause pulmonary edema include hypoxemia, extremely high negative intrathoracic pressure during obstructed inspiratory efforts, pulmonary hypertension, and release of endogenous endorphins during apnea. Proteinuria, as well as other renal function abnormalities, may complicate severe obstructive sleep apnea. We found reversible high-grade proteinuria in 6 of 34 patients with obstructive sleep apnea.¹⁰ Nephrotic syndrome in this setting has been reported and may respond to correction of sleep apnea.¹¹ The nephrotic syndrome, like acute pulmonary hypertension and edema, is a dramatic complication of the sleep apnea syndromes. Presenting in this manner, sleep apnea is likely to be misdiagnosed.

Clinical Evaluation

Abnormalities of the nose and pharynx including upper airway allergy, are commonly observed in patients with sleep apnea (Table 2). Recognition of these abnormalities identifies patients who are most likely to benefit from surgical therapy. Many diseases associated with craniofacial abnormalities such as mandibular abnormalities, Robin malformation sequence, Klippel-Feil sequence, craniosynostosis, and Down's Syndrome can be associated with sleep apnea.

Many diseases that interfere with control of upper airway muscles or ventilation have been associated with the sleep apnea syndrome. These include poliomyelitis, myotonic dystrophy, cervical cordotomy, syringobulbia, Shy-Drager disease, and lateral medullary syndrome.

TABLE 2 — Upper Airway Abnormalities

Nose:	Deviated septum, polyps, septal dislocation
Nasopharynx:	Adenoids, tumors, pharyngeal flap, papillomatosis
Oropharynx:	Tonsillar hypertrophy, tumor, macroglossia, lingular cyst
Larynx:	Vocal cord paralysis, edema of epiglottis
Others:	Micrognathia, pterognathia, neck masses

About 80% of patients with sleep apnea are overweight. The degree of obesity correlates with the severity of apneas. Sleep apnea is very common in patients with hypothyroidism and usually improves with replacement hormones. Many other potentially reversible endocrine abnormalities, including acromegaly, testosterone therapy, cortico-adrenal tumors, and diabetes, can be associated with sleep apneas.

Diagnostic Tests

The overnight polysomnogram is the standard diagnostic test for obstructive sleep apnea. A typical recording consists of monitoring of EEG, EOG, EMG, EKG, oro-nasal airflow, chest wall and abdominal movements, and oxygen saturation for a 6-8 hour period. The diagnosis can be established by shorter-duration recordings. Correctly assessing the severity of sleep apnea and the response to therapy, however, is difficult without full-night polysomnograms. Polysomnography reveals the type, frequency, and duration of apneas and hypopneas, falls in oxygen saturation, the presence or absence of cardiac arrhythmias, and the quality and quantity of sleep. Usually a single overnight polysomnogram is a sufficiently sensitive test to exclude clinically significant sleep apnea. Occasionally, however, a single polysomnogram may be falsely negative. Factors that may cause a false-negative polysomnogram include a technically poor sleep study, inadequate amount of sleep, reduced REM sleep, sleeping in the lateral

posture, recent weight loss, and recent therapy for suspected sleep apnea.

Selected other tests may give clues to the diagnosis of sleep apnea. Identification of upper airway obstruction or the so-called "saw tooth pattern" on a flow-volume loop may suggest the diagnosis. Neither pattern, however, is sensitive enough to screen patients for the diagnosis of sleep apnea. For the same reason, Holter monitoring, pulse oximetry, and daytime sleep recordings all have limited roles in sleep apnea screening.

Polysomnography reveals the type, frequency, and duration of apneas and hypopneas; falls in oxygen saturation; the presence or absence of cardiac arrhythmias; and the quality and quantity of sleep.

Treatment

Tracheostomy has been the standard for measuring the success of sleep apnea therapy. Because of the availability of many other therapeutic modalities, tracheostomy is now rarely used.¹² Uvulopalatoplasty (UPP) enlarges the posterior pharynx by removing the uvula, tonsils, and excessive tissue from the lateral pharyngeal wall and phar-

uvulopalatal arch.¹³ UPP is associated with symptomatic improvement in >90% of patients. Objective improvement, defined as 50% reduction in the apnea index, occurs in about two-thirds, and cure is achieved in about half of the patients undergoing the procedure. Uvulopalatoplasty produces an increase in pharyngeal area and a tendency toward less collapsibility. The success rate is higher in people with excessive enlargement of the uvulo-palatal folds. Failures of UPP are probably related to the multiplicity of causes and variability of sites of upper airway obstruction in sleep apnea patients. In an attempt to establish predictors for successful UPP, Gislason et al¹⁴ studied 34 consecutive patients undergoing uvulopalatoplasty. Responders to UPP (22 patients) had fewer apneas (apnea and hypopnea index 32 vs 64), a lower body mass index (31 vs 36 kg/m²), and less airway narrowing than did nonresponders. These findings led the authors to suggest that UPP is effective in mild to moderate sleep apnea but not for severely affected or heavily overweight patients. UPP can be complicated postoperatively by oropharyngeal obstruction because of edema, bleeding, and narrow upper airways. Long-term problems following UPP include nasopharyngeal reflux, pharyngeal infection, and hemorrhage. In 126 patients undergoing UPP at our institution, only hemorrhage (6%) and rhinorrhea (2%) were significant complications. However, two deaths were indirectly related to the surgery.

Nasal continuous positive airway pressure (CPAP) therapy has been found to be very effective in patients with obstructive and central sleep apneas.¹⁵ The therapeutic effect of CPAP, as judged by sleep quality, is immediately apparent. Because of patient acceptance and low morbidity, CPAP has now become the mainstay of ther-

apy for obstructive sleep apnea. Many neuropsychologic and endocrine abnormalities seen in patients with sleep apnea have been shown to reverse with CPAP therapy. Nasal CPAP increases the upper airway cross-sectional area from the level of the nasopharynx to oropharynx,¹⁶ but the tonic and phasic activity of the genioglossus muscle is decreased or remains unchanged. CPAP therapy is tolerated well by most patients. CPAP must be applied continuously throughout the night and is relatively expensive. Epistaxis, conjunctivitis, sinusitis, airway obstruction, and pneumocephalus have been reported as complications.

Weight loss, at times even a small amount, is associated with significant improvement of sleep apnea.¹⁷ The mechanism by which weight loss is associated with a reduction in the number of apneas is not clear but may be related to improvement in pharyngeal and glottic function and size.

Drug therapy in sleep apnea patients has been found to be unsatisfactory in most studies. Progesterone, protriptyline, and acetazolamide are the three drugs that have been most extensively evaluated.

Sleeping in the supine posture is associated with the highest number of apneas. In some patients, apneas may be totally eliminated by sleeping in the lateral posture. Many oral appliances, including nasopharyngeal tubes, and tongue-retaining devices have been found to decrease the number of apneas but these are generally not well-tolerated.

Oxygen has been extensively studied as a therapy for sleep apnea. Initial studies using intermittent high concentrations of oxygen showed prolongation of apneas and an increase in arrhythmias. Low concentrations of oxygen (3-4 L/min) have resulted in either slight improvement or worsening of obstructive apneas. Oxygen therapy for

sleep apnea was recently reviewed with the conclusion that oxygen therapy should be administered only to patients who remain hypoxic despite other forms of therapy.¹⁸

Because of patient acceptance and low morbidity, nasal continuous positive airway pressure (CPAP) has become the mainstay of therapy for obstructive sleep apnea.

Mortality

Extreme hypoxemia and cardiac arrhythmias occur during sleep apnea and increased mortality during sleep in these patients is not unexpected. He et al¹⁹ found that patients with an apnea index >20 appeared to have a much higher mortality than patients with an apnea index <20. In this study, there were no deaths among patients treated with tracheostomy or nasal CPAP, while 8 of 60 UPP-treated patients died. A five-year follow up of 198 patients with obstructive sleep apnea found no deaths among 7 patients treated by tracheostomy. There were 14 deaths in 127 untreated patients (advised weight loss only). The excess mortality in the conservatively treated group occurred despite a lower apnea index and lower mean body mass index. The results of these and other studies suggest that obstructive sleep apnea may be associated with significant mortality. While tracheostomy and nasal CPAP appear to have a beneficial effect on survival, the long-term effect of UPP on the prognosis of sleep apnea remains to be proven.

Summary

Over the past 2 decades, we have gained great insight into the sleep apnea syndromes. Though progress in this field continues, many problems, including an incomplete understanding of the disease and its natural history, remain. Future work should clarify these areas as well as provide a better understanding of our available therapeutic options.

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Restrictive Covenant Law in Georgia: Back to the Drawing Board

Cliona M. Robb

THE *Jackson & Coker v. Hart*¹ case, decided by the Georgia Supreme Court on June 27, 1991, struck down Georgia's restrictive covenant act ("the Act").² The Act, enacted in 1990, attempted to resolve uncertainties in Georgia law regarding covenants that restrict future employment. In a medical context, restrictive covenants consist of binding promises not to compete, not to solicit patients, and other prohibitions that become effective upon the sale of a medical practice or upon the termination of an employment contract or partnership agreement. This Legal Section article will examine the rise and fall of this controversial Act and its future implications for physician employment arrangements.

The Need for Reform

The legal community recognized the need for reform well before the General Assembly enacted the 1990 Act. In 1984, for example, a study commissioned by a section of the State Bar of Georgia concluded that restrictive covenant law in Georgia had been distorted by a complex set of judicial rules that frequently yielded unpredictable or arbitrary decisions.³ Again in 1989, the author of this study noted that none of the reforms had been adopted to any significant extent by Georgia courts, and urged further action on this issue, including legislative reform.⁴

The dissatisfaction with restrictive covenant law, as it had devel-

‘In a medical context, restrictive covenants consist of binding promises not to compete, not to solicit patients, and other prohibitions that become effective upon the sale of a medical practice or upon the termination of an employment contract or partnership agreement.’

oped over the years, stemmed from the Supreme Court's insistence that these covenants in employment agreements contain definite and reasonable scope, territory, and time restrictions. If any one of these restrictions is deemed to be too broad by the court, the entire covenant will fail when an employment contract is involved. Since partnership agreements and contracts for the sale of a medical practice are generally negotiated between par-

ties of more equal bargaining power, courts show much greater respect for freedom of contract in these instances.⁵

Difficulties with enforcing restrictive covenants are more often encountered with employment contracts, because courts rigidly apply scope, territory, and time restrictions to covenants which must be fixed at the time an employee is hired. As a result, courts are required to interpret restrictive covenants literally, without accounting for circumstances which change during the course of the employee's tenure. For instance, if an employee's duties change, the scope restrictions may become invalid, while relocating an employer's office may invalidate territorial restrictions.

The scope restriction encompasses the nature of the prohibited business activity, which must be specifically described and bear a reasonable relation to the former employee's responsibilities or expertise. Physician's employment contracts are different from most contracts in that the scope requirements are easily defined for physicians. Generally, as long as the prohibited activity is described as "the practice of medicine and surgery," or an appropriate practice specialty thereof, courts consider this description sufficiently defined and reasonable.

The guidelines for satisfying te-

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territorial restrictions are much less well defined. Concerning definiteness, the general rule is that enforceable covenants must contain an express geographical description of the restricted territory.⁶ Thus, describing the territory as "where the employee is working at the time of termination" is automatically invalid. Any territorial restriction which cannot be determined until the date of the employee's termination is too indefinite.

Another problem with this geographical requirement is that a territorial description is also invalid when it exceeds the territory where the employee was working at the time the employment was terminated. Essentially, an employer is required to predict a precise geographical location when an employee starts working. If this location subsequently changes, the covenant may be held invalid, unless written amendments to the employment contract are executed each time the territory changes. The difficulties of constructing an enforceable territorial restriction are compounded by the fact that there are absolutely no guidelines for the quantitative aspect of territorial restrictions. The Georgia Supreme Court has explicitly stated that the appropriate size of the territory can only be determined on a case by case basis: "[r]easonableness as to territory depends, not so much on the geographical size of the territory, as on the reasonableness of the territorial restrictions in view of the facts and circumstances of the case."⁷

Time restrictions are subject to the same uncertainties that plague territorial restrictions. The Supreme Court has not set any limitations on time restrictions that would, *per se*, be unenforceable. Prohibitions ranging from 2 to 10 years have all been enforced by the Georgia Supreme Court in medical employ-

ment contracts,⁸ but there is no guarantee that any of these limits are automatically enforceable in different medical employment contracts.

Legislative Reforms

Until 1990, Georgia law considered restrictive covenants to be in general restraint of trade unless they were sufficiently limited, as discussed above. Only covenants which were sufficiently limited could be enforced, as they were considered partial (as opposed to general) restraints of trade. In order to make Georgia law more hospitable to business contracts, the General Assembly enacted the Act to automatically classify restrictive covenants as "contracts in partial restraint of trade."⁹ This reclassification meant that restrictive covenants were presumed to be enforceable until proven otherwise. Rather than starting with a presumption of illegality, courts were to interpret the covenants as freely as possible to ensure that they could be enforced. In addition, the General Assembly declared that certain territorial and time limitations were automatically deemed enforceable.

Under the Act, territorial descriptions in medical employment contracts would have been enforceable if they prohibited the practice of medicine and surgery in any area where the physician worked and in any area that patients were present.¹⁰ This provision completely eliminated the precise geographical description required under the common law and the prediction problems this requirement created.

The reforms regarding time limitations were equally drastic. For prohibitions on the practice of medicine and surgery within a certain place, time limits of 2 years or less would automatically have been deemed enforceable. Time restrictions regarding former patients that

“Covenants most likely to be enforced will be those which prohibit the practice of medicine and surgery . . . and which contain geographical and time limitations that are directly related to protecting the employing physician’s interests.”

extended as long as 3 years would also have been guaranteed enforcement under the Act.¹¹

Another drastic departure from the common law was a provision that required courts to salvage illegal contracts by blue penciling them — literally, by excising any offensive terms.¹² (Under a long line of cases, Georgia courts historically would not “blue pencil” restrictive covenants in employment contracts.) Once these terms had been eliminated, the valid portions of the restrictive covenant could be enforced. No longer could a minor flaw in one provision of the covenant render the entire covenant unenforceable.

The Court’s Response

The blue penciling provision proved to be the Achilles heel of the Act when two former employees of a physician placement service challenged the constitutionality of the Act in the *Jackson & Coker* case. In a two page opinion, the Court determined that the blue penciling provision was representative of the illegality of the Act as a whole and ordered a lower court to re-examine the employment contract in light of

the common law for restrictive covenants.

Unlike many state courts, the Georgia Supreme Court has long opposed blue penciling in employment contracts because the Court believes that this practice encourages the creation of over-expansive covenants. According to the Court, those who draft such covenants will have no incentive to limit the scope of these demands to legally acceptable standards unless such abuses render the entire contract unenforceable.

Although the Supreme Court's hostility to blue penciling is well established, the breadth of the court's holding is somewhat surprising. The former employees had sought a declaratory judgment that the Act "was unconstitutional insofar as it relates to restrictive covenants ancillary to employment contracts."¹³ The Court responded by holding the entire Act invalid, even though parts of the Act concerned covenants in sale of business contracts: "the Act is beyond the power of the General Assembly inasmuch as it is one that authorizes contracts and agreements which may have the effect of or which are intended to have the effect of defeating or lessening com-

petition or encouraging monopoly."¹⁴

This holding invalidates the Act's reclassification of restrictive covenants as partial restraints of trade. Once again, courts will have to presume that such covenants are illegal because "the General Assembly is expressly prohibited by our Constitution from authorizing any contract that is violative of the constitutional provision" regarding contracts that harm competition.¹⁵

Back to the Drawing Board

By declaring that "this purported Act of authorization is 'unlawful and void,' " the Georgia Supreme Court reimposed the common law which prevailed prior to the Act.¹⁶ Drafting an enforceable covenant for a physician's employment contract will now again be subject to the uncertainties regarding territory and time discussed above.

To create an enforceable covenant under these circumstances, the best approach is not to overreach by imposing an all-encompassing restrictive covenant. The covenants most likely to be enforced will be those which prohibit the practice of medicine and surgery (or an appropriate practice

specialty) and which contain geographical and time limitations that are directly related to protecting the employing physician's interest. Following these guidelines will serve the interests of both the physician employer and the physician employee. The employing physician will be ensured the protection which served as an inducement to enter the employment contract, and the employee physician will not be subjected to unnecessary prohibitions in the event he or she chooses to terminate or is terminated from the employment arrangement.

Notes

1. 1991 Westlaw 113949.
2. O.C.G.A. § 13-8-2.1.
3. State Bar of Georgia Corporate & Banking Law Section, *White Paper on Covenants Not to Compete* 8 (1986).
4. Quittmeyer, *Survey of Georgia Law Regarding Restrictive Covenants*, 25 Ga. St. B.J. 188 (1988).
5. *Rash v. Toccoa Clinic Medical Associates*, 264 Ga. 322, 320 S.E.2d. 170.
6. *Ibid.*
7. Quittmeyer at 191, quoting *Thomas v. Coast Indus. Serv., Inc.*, 214 Ga. 832, 108 S.E.2d.
8. *Toccoa* at 171.
9. O.C.G.A. § 13-8-2(2) and 13-8-2.1.
10. 13-8-2.1(c)(2).
11. O.C.G.A. § 13-8-2.1(c)(6).
12. O.C.G.A. § 13-8-2.1(g)(1).
13. *Hart* at 1.
14. *Hart* at 2.
15. *Hart* at 2.
16. *Hart* at 2.

Stereotactic Radiosurgery

John R. Duttonhaver, M.D.

Introduction

STEREOTACTIC RADIOSURGERY is a technique for obliterating intracranial targets which are inaccessible or unsuitable for open surgical techniques. The target within the brain is treated with a highly focused and well-collimated beam of ionizing radiation delivering a high dose of single fraction radiation to a well-defined volume of tissue. The entrance and exit doses are distributed in such a way that the tissue outside the target is minimally affected.

Radiosurgery was introduced in 1951 by the Swedish neurosurgeon, Lars Leksell, who initially used multiple 250 kVp x-rays to produce stereotactic radiosurgery beams.¹ These low-voltage x-rays did not have sufficient penetration to produce the desired characteristics of rapid dose fall-off outside the target volume. Following Leksell's original developments, refinements in the technique of radiosurgery were made by using Proton beams produced from cyclotrons. This type of radiosurgery became available in Uppsala, Sweden; Berkeley, California; and Boston, Massachusetts, starting in the 1950s. More recently, Leksell developed the so-called Gamma Knife, which presently contains 201 cobalt sources arranged in a hemispherical pattern such that the stationary beams are directed toward a common focus into which the intracranial target is placed stereotactically. The precision of dose delivery to the target is extremely high, within a fraction of a millimeter. The current surge of interest in

radiosurgery in the United States is in part related to the greater availability of units including Gamma Knives and modified Linear Accelerators capable of producing stereotactic radiation. At present, there are at least 70 centers in the United States performing stereotactic radiosurgery.

‘The hallmark of radiosurgery is the ability to use small beams of radiation focused on small targets from multiple directions to produce a steep dose gradient at the edge of the target which minimizes unwanted dose deposition outside of the treatment volume.’

The first gamma unit in the United States became operational in August, 1987, at the University of Pittsburgh, and this unit has treated more than 500 patients with small vascular and neoplastic lesions.² Radiosurgery using exter-

nal beams of x-rays from a linear accelerator was first proposed by the group at the Karolinska Institute. Using this technique, the first patients were treated in Europe in the early 1980s. In February, 1986, the first patient in the United States was treated with radiosurgery using a modified 6 million volt linear accelerator at the Joint Center for Radiation Therapy in Boston.^{3, 4}

Because linear accelerators are widely available, they have been modified for radiosurgery in different ways by several investigators. All techniques yield the same result of providing well-collimated and precisely focused beams of radiation while simultaneously protecting the surrounding normal tissue.

Ionizing radiation is used in both conventional radiotherapy and radiosurgery. The two forms of external beam irradiation differ in several important physical and biological respects.

In conventional radiotherapy, multiple small doses of radiation are delivered to targets that include a tumor plus a zone of surrounding normal tissue. Multiple doses, or fractions, are delivered in order to take advantage of the differential repair capacities between normal tissue and tumor tissue. Death results from loss of reproductive capacity. Stereotactic radiosurgery relies on the delivery of a single high dose of necrotizing radiation to a radiographically well-defined intracranial target without delivering a significant proportion of the prescribed dose to the surrounding normal brain tissue.

Dr. Duttonhaver is Chairman, Department of Radiation Oncology, Memorial Medical Center, P.O. Box 23089, Savannah, GA 31403. Send reprint requests to him.

Stereotactic Apparatus

The stereotactic head ring, or halo, is fastened to the cranium with fixation screws prior to the initiation of imaging studies which are used for radiographic localization of the target volume. CT scanning, angiography, and magnetic resonance imaging are all useful in developing a three dimensional reference point of the target to the stereotactic head ring attached to the patient's skull. For radiosurgery to be accurate, the relationship between the three dimensional coordinate system and the source of radiation has to be known and verified. When treating such small volumes accurately, extra care is required as compared with conventional radiotherapy. The hallmark of radiosurgery is the ability to use small beams of radiation focused on small targets from multiple directions to produce a steep dose gradient at the edge of the target which minimizes unwanted dose deposition outside of the treatment volume. This sharp dose gradient allows for the prescribed dose of radiation to be given to a tumor while avoiding vital structures only millimeters away.

Clinical Applications

Currently, stereotactic radiosurgery is used primarily to treat benign brain tumors, arteriovenous malformation, acoustic neuromas, pituitary adenomas, craniopharyngiomas, pineal region tumors, and solitary brain metastases. Historically, stereotactic radiosurgery has been used to relieve certain types of chronic pain or movement disorders. The ideal target should be 3 centimeters or less in diameter.

Arteriovenous malformations (AVMs) present the largest number of patients treated with radiosurgery to date.⁵ AVMs are congenital anomalies which develop from aberrant connections within the

‘Post-treatment morbidity is extremely low, and mortality is virtually non-existent. The procedure usually requires only local anesthesia and mild sedation.’

primitive arterial and venous plexus overlying the developing brain. Patients with AVMs present most frequently with intracranial hemorrhage, seizure, headache, or neurologic deficits. They are associated with a mortality rate of approximately 1-2% per year, and a morbidity rate of approximately 3-4% per year.⁶

Based on the data from multiple series using stereotactic radiosurgery to treat AVMs, complete obliteration has been seen in 40% of patients at 1 year and approximately 80% of patients at 2 years. The 3-year complete response rate is 90%. The rate of fatal hemorrhage and non-fatal re-bleed occurs at a significantly reduced rate in treated patients compared to historical series of untreated patients.^{7,8}

Loeffler, et al.⁹ recently published the results of radiosurgical treatment of brain metastases: 83 brain metastases in 64 patients were treated with stereotactic radiosurgery. Four patients had been previously treated with whole brain irradiation. Several of the patients had multiple lesions treated simultaneously with stereotactic radiosurgery, although most patients had solitary lesions. All patients were followed with CT scan or MRI following radiosurgery. Within this follow-up period, 78 of 83 lesions were controlled by radiosurgery as defined radiographically by a decrease or stabilization of the treated

enhancing volume. After radiosurgery, five lesions recurred locally. Neurologic improvement was seen in 27 of 64 (42%) of patients treated with radiosurgery within the first months of therapy.

Complications

Acute complications include nausea and vomiting within 12 to 24 hours of radiosurgery. The incidence and severity of these symptoms correlate directly with the dose delivered to the target area and the location of the lesion within the brain. Corticosteroids and antiepileptic therapy significantly reduce the incidence and severity of the symptoms. Seizures develop in about 5% of patients within the first 24 hours of radiosurgery. Patients reporting seizure activity had a history of prior seizures. It is now recommended that patients with a seizure history be maintained on therapeutic levels of anti-convulsive medication before undergoing radiosurgery. Alopecia occurs only in patients where the target volume is located close to the dura necessitating a higher dose to the scalp region immediately adjacent to the treatment volume. Return of hair growth is complete in all patients by 4 months status post treatment. Chronic complications include radiation necrosis and cranial nerve dysfunction. Operation to resect symptomatic radiation necrosis occurs in 5-10% of patients treated. The development of cranial neuropathies is more frequently seen in the treatment of acoustic neuromas where the seventh cranial nerve is immediately adjacent to the target volume in the eighth cranial nerve.

Conclusion

Stereotactic radiosurgery has consistently proven to be a precise, safe, effective, and cost-efficient modality of treating inoperable

ons within the brain. The fall off radiation dose at the periphery of a target is dramatic and results in an extremely safe, yet effective form of treatment. There is no need to make an incision in the scalp, penetrate the skull, or physically enter the brain, thereby eliminating surgical complications such as infection, hemorrhage, and CSF leakage. Post-treatment morbidity is extremely low, and mortality is virtually non-existent. The procedure usually requires only local anesthesia and mild sedation.

The results of stereotactic radiosurgery in the treatment of arteriovenous malformations, acoustic neuromas, meningiomas, metastatic lesions, pituitary tumors, and laryngeal carcinomas have been approximately equal to the results using standard external beam irradiation or invasive surgery. Complication rates have been acceptably low and acute side effects have been well tolerated.

As more medical centers develop the capability to perform stereotactic radiosurgery, the number of patients receiving this treatment will increase dramatically over the next several years.

Prospective clinical studies will determine the role of radiosurgery in the initial management of patients with a wide variety of intracranial lesions and will help establish important biological parameters for tumor control and complications.

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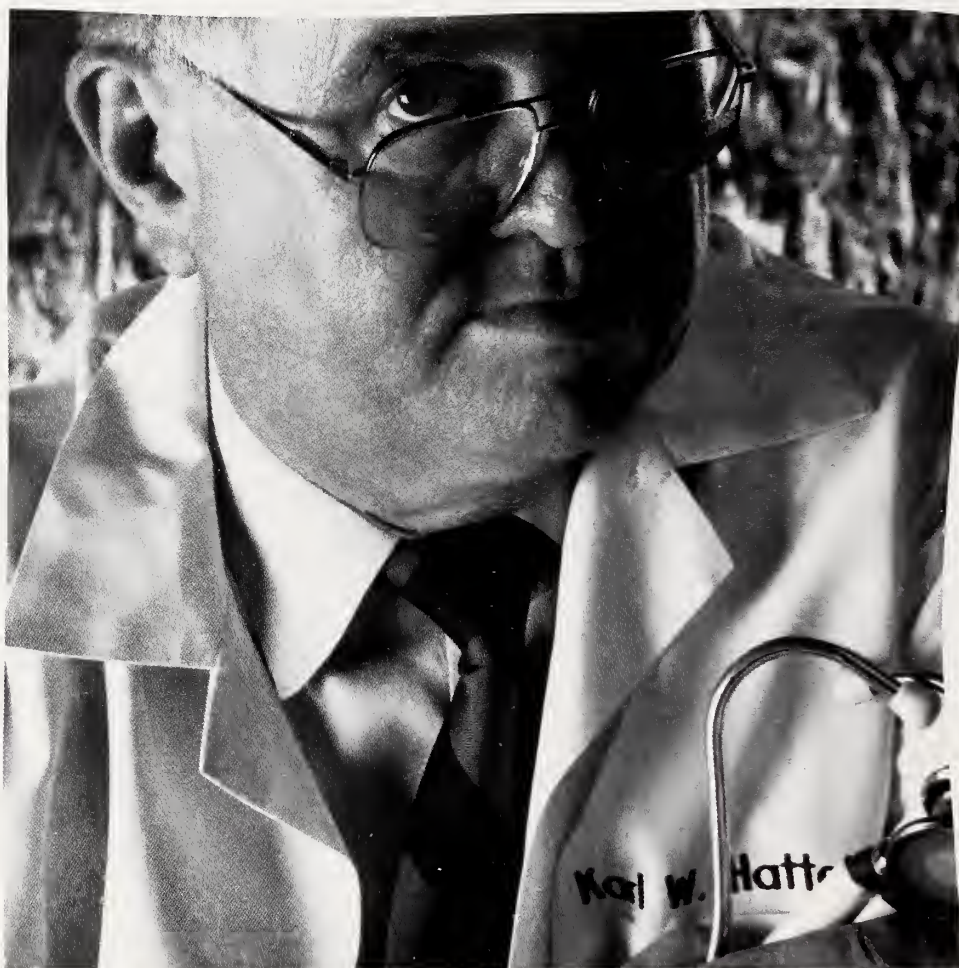


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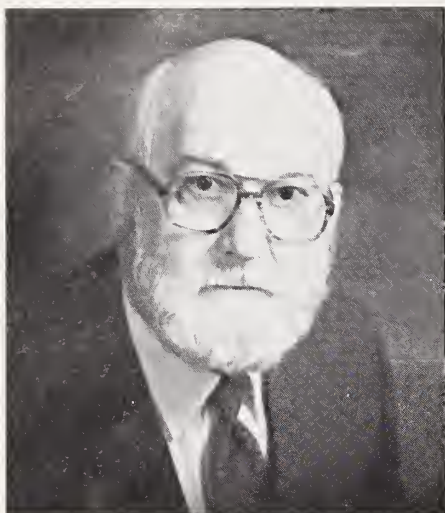
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THE COVER

Painting by Vicki Long, of California. She is represented in Atlanta by **Galerie Timothy Tew**, TULA-D2, 75 Bennett St., Atlanta 30309. 404-352-0655. Cover design by Richardson Design, Atlanta.



Cyler D. Garner

WE PHYSICIANS have recently been justifiably concerned about the drastic cuts that many of us will receive when the RBRVS system is instituted on Jan. 1, 1992.

I am proud of you, my colleagues, for your prompt actions in our efforts to let Congress know that its original intent was being subverted by the Health Care Financing Administration (HCFA). HCFA has received more than 100,000 letters from physicians protesting the cuts in Medicare payments. Our representatives in Washington, D.C., tell us that Georgia physicians were in the forefront of the effort.

Whether RBRVS will be repealed, as the Catastrophic Health Care bill was a couple of years ago after there was a great hue and cry from the public, is anyone's guess. More likely, we will have an increasingly confusing system foisted upon us in the coming years.

I suppose I should be concerned about predictions that the specialties will fight with each other over the shrinking medical dollar. But I don't really believe that many physicians would be so unwise. It is

imperative that we remain a united House of Medicine, for there in lies our strength.

What does concern me is what RBRVS in its present form may mean to patients in rural Georgia and even in some underserved metropolitan areas. There are an estimated one million Georgians who have no health insurance. But in Gordon, where I practice, the majority are covered by either Medicaid, Medicare, or some form of private insurance. My concern is that there won't be a physician in Gordon to replace me when I finally decide to retire. I'm not about to do that for a few years, but the thought has to come: who will care for my patients when I am gone. And we all know we can multiply Gordon by many other small, rural communities across the state. In some parts of the state, there are not enough patients to keep a doctor's practice going. And, recently, we heard from Dr. Frank Houser, head of our Public Health Department, of still another small town with its small hospital in financial trouble and its four doctors consid-

ering moving out if — and more likely when — that hospital closes its doors.

It's hard for me to help the people from HCFA see the faces of people who need more help. People who have insurance, but are miles away from medical care — or just a doctor or two away from care — can be in a fragile position. I believe that anything as poor as thought out as RBRVS must eventually fail. I just don't want patients to die because they are unable to find a doctor.

We are pledged to help our patients, and today, as never before that means that you and I must keep up the pressure on the government. The best way to do that is through MAG and the American Medical Association. Talk to your colleagues who are not members, and tell them this is the time to put themselves on the line and do something extra for their patients.

Cyler D. Garner, MD

Introducing This Special Issue

John R. Lewis, Jr., M.D.

WOMEN HAVE SOUGHT to be attractive since the beginning of time. To accomplish this, they have bathed in ass's milk to soften and smooth the skin, used various potions, consumed assorted poisons, exercised, dieted, and been rolled and massaged. Therefore, it would not be surprising that, at this point in time, when there are various surgical procedures which can improve the appearance of the face and neck, including the nose, eyes, ears, and ears, as well as the trunk and extremities, she will look for additional ways to make herself more attractive. Increasingly, men are also opting for the cosmetic benefits of aesthetic plastic surgery. The plastic surgeon cannot make everyone look alike, nor does s/he wish to. There are many variations of human form and, while many of these are determined by inherited characteristics, others are determined or at least affected by habits of diet, exercise, attitude, emotions,— even one's friends. Needs to say, illnesses, injuries, and anatomic strengths and weaknesses must of necessity play their part.

One must not forget, however, that there are true variations from the norm which can set one apart, thereby affecting a person's self-image and self-esteem. These patients may need surgery, which should not be denied them if they have reasonable expectations. Obviously, the patient who is simply overweight can lose the excess weight by proper diet and exercise. The patient who has only a mild variation from the normal must bal-

ance the benefit to be derived against the inevitable scars.

There are so many variables in the anatomic structure of patients, their expectations, and the healing of tissues, that the plastic surgeon must examine the patient carefully to determine the amount of benefit that can be achieved by surgery, and to determine, if possible, the type of healing which this patient will exhibit. If the patient has a weight which varies up and down within a considerable range, the tissue is bound to be stretched, and the surgical results compromised or shortlived. If a female patient has plans of becoming pregnant later, it is usually wise to recommend a delay of surgery until after the final pregnancy and a general recovery. Obviously severe deformities, such as large abdominal hernias, warrant repair, even with the possibility of future pregnancies. Other major changes in the tissues, such as marked ptosis of the breasts or a large apron of abdominal fat and skin, also warrant repair.

Some of the body areas dealt with in this special issue of the *Journal* are fraught with more than the usual possibility of not pleasing the patient with the surgical result. It is important to give a detailed explanation of the surgery and the expected results, being certain that

the patient understands. The female patient often has visions of a snug, flat, sensuous, nulliparous abdomen, whereas the surgical result may fall far short of this. The plastic surgeon should only promise what s/he is absolutely certain can be achieved, and further allowances should still be made for results that are less than expected and for possible revisions. Asymmetries of the arms, hips, buttocks, breasts, eyes, ears, and even cheeks will be present following surgery as they were before surgery. Postoperatively the patient is almost sure to notice asymmetries which he or she completely ignored preoperatively.

The patient who is a perfectionist and who has long planned to have these physical improvements made may visualize the unveiling from the bandages to be a pain-free, exciting event with the absence of swelling, bruising, and scars. It is essential, therefore, that the surgeon adequately explain the extent of the surgery, the length of the convalescence, and the long period required for scar resolution. The surgeon should promise only that s/he will attempt to accomplish the desired result and should have the patient expect less than is actually anticipated. A happy patient is a joy forever, but a dissatisfied one is a millstone around the neck. My best advice is to make haste slowly and avoid problems of understanding before they arise.

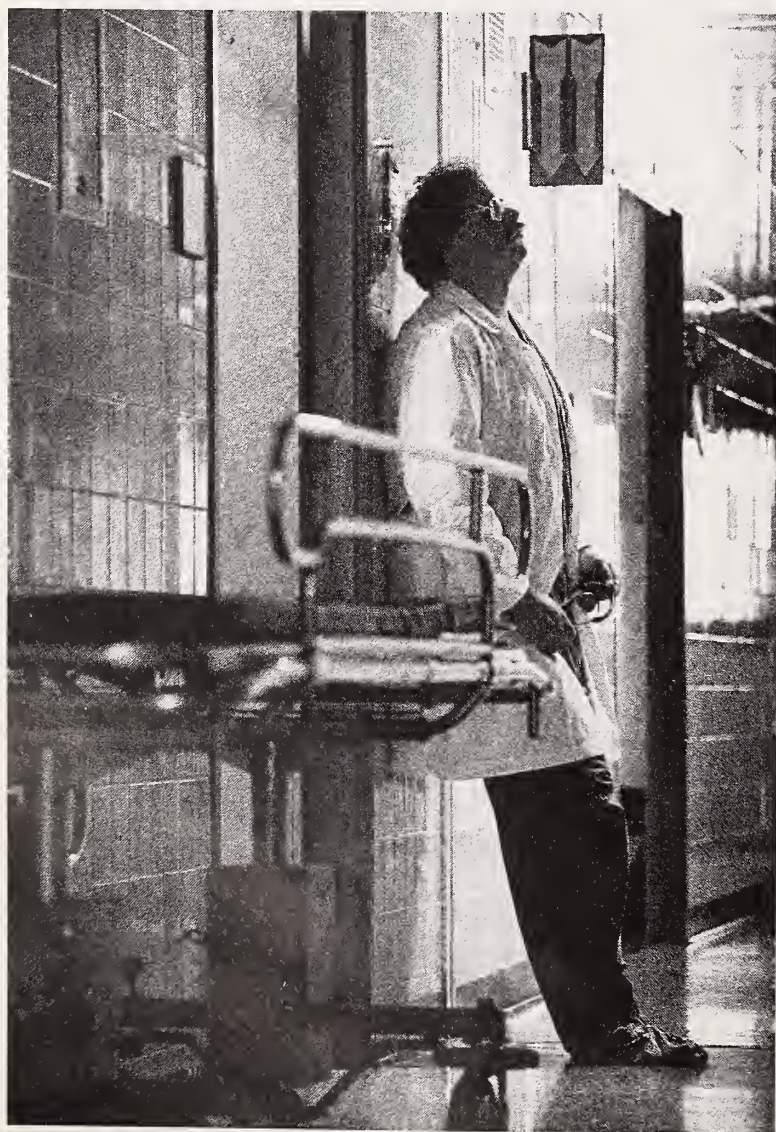
I have been honored by the *Journal* by being asked to organize a panel of writers from among plastic surgeons throughout Georgia to dis-

Dr. Lewis practices plastic and reconstructive surgery and is the Guest Editor of this special issue. His address is 365 E. Paces Ferry Rd., Atlanta, GA 30305.

cuss Aesthetic Plastic Surgery for this special issue. The following articles should be of interest to the doctors of our state and region. The talent of our various plastic surgeons will show through in the presentations of these subjects.

Lastly, I would like to state that we are quite aware that this issue does not fully cover the subject of Aesthetic Plastic Surgery. We have introduced several topics and given you, the readers, something to think about. Perhaps we can

come back at another time and fill in some of the gaps. We would appreciate your ideas and suggestions or criticisms if you have the time to pass them on to us.



“Being a patient advocate is what being a physician is all about.”

Dr. Kevin Fullin, Cardiologist, Kenosha, Wisconsin,
Member, American Medical Association

Why would a cardiologist get involved in the issue of family violence? Perhaps, because what he saw simply cried out for action.

“Fully a third of all women’s injuries coming into our emergency rooms are no accident,” says Dr. Fullin.

While others were content to downplay the issue of family violence, Dr. Fullin would not. He petitioned state officials, and through his efforts the first Domestic Violence Advocate Program in his state was created.

“Organized medicine must serve as an advocate for patients,” stressed Dr. Fullin.

The American Medical Association (AMA) couldn’t agree more. We’re committed to focusing physician attention on the issue of family violence.

Become a member of the AMA today.

Members of the AMA are encouraged to join their state, county and specialty societies.

American Medical Association

Physicians dedicated to the health of America



On Dining Out

Charles R. Underwood, M.D.

On Dining Out

In addition to the family dinner, consisting of cabbage soup, sucking pig, goose with apples, and so on, a so-called "French" or "chef's" dinner used to be prepared in the kitchen on great holidays, in case any visitor in the upper storey wanted a meal. When they heard the clatter of crockery in the dining room, Lysevich began to betray a noticeable excitement; he rubbed his hands, shrugged his shoulders, screwed up his eyes, and described with feeling what dinners her father and uncle used to give at one time, and a marvelous matelote of turbot which he cook here could make; it was not a matelote, but a veritable revelation! He was already gloating over the dinner, already eating it in imagination and enjoying it. When Anna Akimovna took his arm and led him to the dining-room, he tossed off a glass of vodka and put a piece of salmon in his mouth; he positively poured with pleasure. He munched loudly, disgustingly, emitting sounds from his nose, while his eyes grew wildly and rapacious.

The hors d'oeuvres were superb; among other things, there were fresh white mushrooms stewed in cream, and sauce provençale made of fried oysters and crayfish, strongly flavoured with some bitter pickles. The dinner, consisting of elaborate holiday dishes, was excellent, and so were the wines. Mishenka waited at table with enthusiasm. When he laid some new dish on the table and lifted the shining cover, or poured out the wine, he did it with the solemnity of a professor of black magic, and, looking at his face and

Of greater consequence is the question of whether it was we who changed or have we and our patients been but the victims of social and financial planners inflamed with the unshakable conviction that they know better than we how the system should work?

his movements suggesting the first figure of a quadrille, the lawyer thought several times, "What a fool!"

After the third course Lysevich said, turning to Anna Akimovna:

"The fin de siècle woman — I mean when she is young, and of course, wealthy — must be independent, cleaver, elegant, intellectual, bold, and a little depraved. Depraved within limits, a little; for excess, you know, is wearisome. You ought not to vegetate, my dear; you ought not to live like everyone else, but to get the full savour of life, and a slight flavor of depravity is the sauce of life. Revel among flowers of intoxicating fragrance, breathe the perfume of musk, eat hashish, and best of all, love, love, love. . . . To begin with, in your place I would set up seven lovers — one for each day

of the week; and one I would call Monday, one Tuesday, the third Wednesday, and so on, so that each might know his day."

This conversation troubled Anna Akimovna; she ate nothing and only drank a glass of wine.

"Let me speak at last," she said. "For myself personally, I can't conceive of love without family life, I am lonely, lonely as the moon in the sky, and a waning moon, too; and whatever you may say, I am convinced, I feel that this waning can only be restored by love in its ordinary sense. It seems to me that such love would define my duties, my work, make clear my conception of life. I want from love peace of soul, tranquility; I want the very opposite of musk, and spiritualism, and fin de siècle . . . in short" — she grew embarrassed — "a husband and children."

A Woman's Kingdom
ANTON CHEKHOV, 1894

Sweetbreads

à la Grand Hotel de Monte Carlo
From *St. James Cookery Book*,
1894, Louisa Rochfort

sweetbreads
cold water
lardons (thin strips of salt pork or bacon)*
fat bacon
velouté sauce (below)
fried croutons of bread
Parmesan cheese
(Soak sweetbreads for 3-4 hours in cold water, then remove the membraneous covering.) Blanch the

sweetbreads thoroughly (by placing in cold salted water and simmering 15 minutes), then throw them into cold water; when quite cold trim and lard neatly,* then wrap them in slices of fat bacon, and stew them for $\frac{3}{4}$ hour. Drain them, crisp the lardons with a salamander and serve them with a good velouté sauce over them; garnish with fried croutons of bread, glazed with a little Parmesan cheese.

(One pound sweetbreads will serve 2)

The Literary Gourmet

LINDA WOLFE, WRITER AND EDITOR

CAREFUL THOUGHT and planning is required to search out or simply stumble upon those quiet and reflective moments when the cares and concerns, the tribulations, which afflict us all are away, and we find ourselves in such a state of mind that we consider, give credence to, matters which in our more rational and realistic moments escape our thought processes. Those times when "flights of fancy" overwhelm rationality as well as the burden, the creative restrictiveness, of our daily lives and the happy, unrestrictive subconsciousness of us all holds sway.

So it was that evening when I suggested to my room and bedmate that we "celebrate" the attaining of yet another milestone along the highway of togetherness. Celebrate, make note of, the somewhat unusual accomplishment in these days of instant marriage, instant divorce, of having enjoyed the company of each other for yet another year.

Gastronomical research and careful planning led us at day's end to The Dining Room at the Buckhead Ritz Carlton in Atlanta. One must at one time or another, or for

one excuse or yet another, experience this place. This is no advertisement, and if so unsolicited and unpaid for, yet one finds in this quiet and sophisticated "Room" beset with dark wood paneling, old English landscapes, and tuxedoed waiters an oasis of gastronomical calmness befitting most any occasion. The menu must be approached with that degree of subdued anxiety and hidden certainty characteristic of the freshman medical student upon first opening *Gray's Anatomy* — "Sea Urchins in Aspic, Mussels in Lobster Bisque, Mango Morass," that sort of thing. It requires a degree of self-assurance to conquer the unknown as well as an adventuresome spirit. The city offers others of close or equal perfection — La Grotta, Hedgerose Heights Inn, 103 West — but here at "The Dining Room" one comes closest to perfection.

Gastronomics aside, I said to her, "Now about that gathering the other night at our nurse friend's house. Why were you so quiet? Why did the conversation bother you?" We had found ourselves that evening invited for cocktails and dinner with a small group which included physicians and their spouses both older and younger than were we, thus creating an age differential which, it seemed, later on guided the conversation.

"There seemed such a difference, such a void, between what the young physician was saying and what I am accustomed to you and our contemporaries saying when we sit around at social gatherings engaged in casual, perhaps meaningless, but nonetheless thoughtful conversation. You and your medical friends, our contemporaries, seem always to start the talk, the reminiscences with the remark, 'Let me tell you about this

patient I have been seeing,' and you talk on about how that patient got along. Your patient seems to be the focus, the catalyst, for the entire conversational encounter. But that particular evening it seemed the talk always started with a concern over who would pay for the care given to the patient and to which HMO or whatever they belonged to. There seemed to be a shift of emphasis — of importance — and the basic and most important aspect of it all, the patient, seemed to have been relegated to the back row of the theater. I worried," she said, "that your generation of physicians had become the dinosaurs of the physicians of today."

I caught my breath. I thought, "Me, a dinosaur? When all I said to the young physician was, 'Do you really send patients to your referring colleagues for tests, for opinions, which you could obtain yourself and accurately interpret yourself just because they will return the favor — and surely you don't mean that you do this because as you said, 'Everybody else does it — it is expected of me.'? Do you call me a dinosaur simply because of such an innocent remark?"

So went the conversation between the two of us as the evening wore on. Yet I was forced to consider, to ponder, whether or not we have all been conditioned, and more worrisome, has the next generation of physicians been rigidly programmed to perform, to practice medicine, with the "profit motive" as a driving force, leaving the patients and their care at the mercy of a materialistic mentality focused on personal gain.

Perhaps it would help a bit to take refuge in that most comforting and near universal tendency of we humans to search out the place or person upon whom to place the

burden of blame if indeed such an unfortunate change is occurring. Now if this approach of the physician to his or her patient is indeed occurring, and I must say that many indices would seem to indicate that it is, then I for one might turn my first and foremost on that movement in the financing mechanism of paying for medical care which replaced individual responsibility or reimbursement with a formless and faceless bureaucracy. With HMOs, PPOs, IPAs, and the like. So alluring were the prospects of solving the fiscal side of medical care that our own MAG devised and operated, ever so briefly, their very own such animal, only to find in so doing that as financiers and "third party payors" we are at best but good physicians. This aside, I can but ponder the change which came over us when we cared for all who came to us, took payment from those of some means and knew little nor cared much for the fiscal state of those who could not provide such payment. We simply took care of them and saw such individuals as sick people who needed our attention rather than as members or not of some nebulous HMO. Of greater consequence is the question of whether it was we who changed or have we and our patients been but the victims of social and financial planners inflamed with the unshakable conviction that they know better than we how the system should work?

The Baked Alaska ran thin upon the plate as the evening and the discussion wore on toward its inconclusive terminus. "Have you changed, you and your colleagues, you physicians of years past?", she put to me with an edge of decisiveness which these many years of togetherness had taught me required more than vacuous answers. "Yes, surely, we have changed," I said. "We had to. We would have been foolish not to have done so. Our patients can no longer pay us for our services with a chicken or a bushel of corn. Not even with a check or a dollar bill. Nor are our expenses a matter of personal decision as once they were but rather determined for us by a conglomerate of governmental and organizational dictums. But one word of caution let me add," said I as she cast upon me the gaze and long recognized demand for reason rather than fatuous excuse, "we are yet the physicians we have always been, both young and aged. We have always had in our midst those whom we wished elsewhere. Today our world differs from the past. So it is that our conversation, our social intercourse, differs from the past. Yet, there still rules the everlasting and incontrovertible demand, the absolute unavoidable "Golden Law," that should not the patients and their best attention occupy us first and foremost then surely, there is no doubt about it, the success of our professional lives, the size and

prestige of our practice, yes, the financial aspect of our endeavors will fall far short of our best expectations.

We left The Dining Room somewhere in the course of these reflections. Happy. Content. Relieved of a significant reduction in the credit on our MasterCard. We left and started the journey home to the suburbs. Still holding hands. Still convinced that no social planner, no third party expert, can singlehandedly and unopposed control the course or the provision of medical care in the future. It is too securely in the hands of these young physicians who enter this profession for the simple reason that it is the manner in which they choose to spend their lives. Who place the welfare of their patients at the top of their list of priorities and who recognize that caring for the sick in our society must, as in life itself, be a joint effort with those other parties concerned and involved in the adventure.

*"Some hae meat and cannot eat,
And some would eat that want it;
But we hae meat, and we can eat,
Sae let the Lord be thankit."*

ROBERT BURNS, 1759-1796

Dear Editor,

As I have mentioned to you in the past, I feel that the contents of the *Journal* have become progressively more pertinent and practical. I feel that it fills an area of communication information that otherwise would be void, and I would congratulate you on the quality.

I have noticed, however, that it seems to be getting thinner and thinner with time. I would hope that this is a transient phenomenon and that we will have the benefit of a fatter *Journal* in the future.

*Sincerely yours,
John P. Wilson, M.D., F.A.C.S.
General Surgeon, Atlanta*

Dear Editor,

Congratulations on the very attractive cover of the September issue of the *Journal*!

Are there any copies of this eye-

catching cover available? (I would like to put one up in my office, but didn't want to dismember my library's only copy.)

Congratulations again on the excellent production.

*Sincerely,
Gary G. Schwartz, Ph.D., M.P.H.
Assistant Professor
Univ. of Pittsburgh
School of Medicine*

(Ed. note: And then we asked him how he came to see our Journal. His response . . .)

Thanks so much for the copies of your beautifully produced September issue. I gave the extra copy to a colleague who also was much impressed. I'm sure that both copies will be adorning the walls of the Department of Clinical Epidemiology.

In answer to your question, I orig-

inally saw the *Journal* on the new journal shelf of the Falk Library of Medicine, at the University of Pittsburgh.

Thanks again,

*Best regards,
Gary G. Schwartz, Ph.D., M.P.H.
Assistant Professor*

Dear Editor,

After reading your editorial in the October issue of the *Journal of the Medical Association of Georgia*, I feel that we who belong to the MAC are privileged to have you as our editor.

I agree with your philosophy and encourage you to continue your very excellent writing.

*Sincerely,
Howard S. Brown, M.D.
Thoracic Surgeon, Atlanta*

About the Cover Artist

Vicki Long

"The common thread that runs through most of the work I produce is taking a familiar image, such as the human figure, and rearranging its parts in a new way, creating something primal and visually unfamiliar," so says Vicki Long, our cover artist for this special issue on aesthetic plastic surgery in which authors discuss their techniques for "rearranging" body "parts in a new way."

"I like to take things out of context, or to segregate one part from the whole. Teeth, for instance, de-

pending on how they are bared, can be either a smile or a bit, lips can offer a kiss or a snarl.

"This disintegration of the whole into parts, paired with gestural drawing marks based on the figure's potential for movement at any second, gives these figure pieces their strong presence. When I am in the studio with six to ten of these works on the wall, it's like being in the thick of a very noisy, energetic crowd, each vying for first attention."

Vicki Long lives on a ranch in Northern California where she raises Quarter horses in addition to creating paintings, monotypes, and sculpture. She received her bachelors of arts from the University of California, Santa Barbara and her M.F.A. from California State University at Long Beach. She is represented in Atlanta by **Galerie Timothy Tew**, TULA-D2, 75 Bennett St. Atlanta 30309, 404-352-0655.

Plastic & Reconstructive Breast Surgery

BY JOHN BOSTWICK, M.D., III

A Review by Charlie Yarn, M.D.

I HAVE THOROUGHLY enjoyed reviewing *Plastic and Reconstructive Breast Surgery* by Dr. John Bostwick, III, Professor of Surgery, Division of Plastic and Reconstructive Surgery, Emory University School of Medicine.

This work in two volumes is the work of a master craftsman. Dr. Bostwick is an international authority on breast surgery. He is recognized for his leadership and innovative pioneering in modern breast aesthetic and reconstructive surgery. Those of you who have read and enjoyed Dr. Bostwick's previous books and papers will find this book a must.

Here, Dr. Bostwick again demonstrates his complete and thorough understanding of the female patient seeking and/or needing breast surgery. His knowledge of her anatomy, physiology, and psyche, as well as the pathology and its surgical correction is clearly translated to the reader. Dr. Bostwick speaks clearly and to the point, with an appeal not only to the finished surgeon but to the student as well.

This text, with its many photographs and drawings, is also an "Atlas." The two volumes are physically beautiful books with distinctive covers and fine paper. The pages with large print and clear sub-titles make for very easy read-

ing or quick reference. The volumes are well documented with a fine list of references. The text throughout is greatly reinforced with photographs and drawings demonstrating the problems and their solutions, as well as possible complications.

Volume I deals with basic fundamentals and aesthetic breast surgery. It discusses in addition to fundamentals, implants and expanders, augmentation and reduction mammoplasty, mastopexy, and problems and complications.

Volume II, "Reconstructive Breast Surgery," discusses breast cancer, decisions in breast reconstruction, various methods of reconstruction, and problems.

The author avoids unnecessary detail, yet gives full coverage of the subject. He states as his motivation, "a desire to share insights gleaned and lessons learned from clinical experience, building on the cumulative examples of others."

This he has done with a book that reads with the ease of a good novel. Once started, it is hard to put down.

Dr. Yarn is a retired plastic surgeon in Atlanta. This review was originally published in our March, 1991, issue. Because of its special relevance to this issue and in case you missed it, here it is again.

DECEMBER

2-6 — *Atlanta: Modern Methods of Diagnosing and Treating Diabetes Mellitus and Its Complications.* Category 1 credit.

Contact Office of CME, Emory Univ. Sch. of Med., 1440 Clifton Rd., Atlanta 30322. PH: 404-727-5695.

6 — *Atlanta: Current Neuro-Ophthalmology.* Category 1 credit. Contact Office of CME, Emory Univ. Sch. of Med., 1440 Clifton Rd., Atlanta 30322. PH: 404-727-5695.

9-11 — *Atlanta: Nuclear Medicine Update.* Category 1 credit. Contact Office of CME, Emory Univ. Sch. of Med., 1440 Clifton Rd., Atlanta 30322. PH: 404-727-5695.

16-20 — *Atlanta: Modern Methods of Diagnosing and Treating Diabetes Mellitus and Its Complications.* Category 1 credit. Contact Office of CME, Emory Univ. Sch. of Med., 1440 Clifton Rd., Atlanta 30322. PH: 404-727-5695.

JANUARY 1992

16-18 — *Sea Island: Triological Society Southern Section meeting.* Contact Am. Laryngological, Rhinological & Otolological Society, Box 155, East Greenville, PA 18041. PH: 215-356-8348.

13-17 — *Atlanta: Modern Methods of Diagnosing and Treating Diabetes Mellitus and Its Complications.* Category 1 credit. Contact Office of CME, Emory Univ. Sch. of Med., 1440 Clifton Rd., Atlanta 30322. PH: 404-727-5695.

27-31 — *Atlanta: Modern Methods of Diagnosing and Treating Diabetes Mellitus and Its Complications.* Category 1 credit. Contact Office of CME,

Emory Univ. Sch. of Med., 1440 Clifton Rd., Atlanta 30322. PH: 404-727-5695.

FEBRUARY 1992

7 — *Milledgeville: Perinatal Addiction.* Category 1 credit and AAFP Prescribed credit. Contact Robert C. Fore, Ed.D., Mercer Univ. Sch. of Med., Office of CME, 777 Hemlock St., Macon 31201. PH: 912-744-1634.

10-14 — *Atlanta: Modern Methods of Diagnosing and Treating Diabetes Mellitus and Its Complications.* Category 1 credit. Contact Office of CME, Emory Univ. Sch. of Med., 1440 Clifton Rd., Atlanta 30322. PH: 404-727-5695.

17-21 — *Atlanta: MR-92-01.* Category 1 credit. Contact Office of CME, Emory Univ. Sch. of Med., 1440 Clifton Rd., Atlanta 30322. PH: 404-727-5695.

21 — *Macon: Update on Infectious Diseases.* Category 1 credit and AAFP Prescribed credit. Contact Robert C. Fore, Ed.D., Mercer Univ. Sch. of Med., Office of CME, 777 Hemlock St., Macon 31201. PH: 912-744-1634.

24-28 — *Atlanta: Modern Methods of Diagnosing and Treating Diabetes Mellitus and Its Complications.* Category 1 credit. Contact Office of CME, Emory Univ. Sch. of Med., 1440 Clifton Rd., Atlanta 30322. PH: 404-727-5695.

28-29 — *Augusta: Flexible Fiberoptic Sigmoidoscopy.* Category 1 credit. Contact Div. of Cont. Ed., MCG, Augusta 30912-1400. PH: 404-721-3967.

28-29 — *Augusta: Symposium on Pre-menstrual Syndrome.* Category 1 credit. Contact Div. of Cont. Ed., MCG, Augusta 30912-1400. PH: 404-721-3967.

MARCH 1992

2-7 — *Augusta: 27th Annual Primary Care and Family Practice Symposium.* Category credit. Contact Div. of Cont. Ed., MCG, Augusta 30912-1400. PH: 404-721-3967.

5-7 — *San Antonio, TX: Carnitin in the Clinical Setting.* Category 1 credit. Contact Div. of Cont. Ed., MCG, Augusta 30912-1400. PH: 404-721-3967.

9-13 — *Atlanta: Modern Methods of Diagnosing and Treating Diabetes Mellitus and Its Complications.* Category 1 credit. Contact Office of CME, Emory Univ. Sch. of Med., 1440 Clifton Rd., Atlanta 30322. PH: 404-727-5695.

20-21 — *Augusta: Ophthalmology.* Category 1 credit. Contact Div. of Cont. Ed., MCG, Augusta 30912-1400. PH: 404-721-3967.

20-21 — *Sea Island: ENT Conference.* Category 1 credit and AAFP Prescribed credit. Contact Robert C. Fore, Ed.D., Mercer Univ. Sch. of Med., Office of CME, 777 Hemlock St., Macon 31201. PH: 912-744-1634.

23-27 — *Atlanta: Modern Methods of Diagnosing and Treating Diabetes Mellitus and Its Complications.* Category 1 credit. Contact Office of CME, Emory Univ. Sch. of Med., 1440 Clifton Rd., Atlanta 30322. PH: 404-727-5695.

27 — *Macon: Cherry Blossom Psychiatric Conference.* Category 1 credit and AAFP Prescribed credit. Contact Robert C. Fore, Ed.D., Mercer Univ. Sch. of Med., Office of CME, 777 Hemlock St., Macon 31201. PH: 912-744-1634.

Basic Techniques of Face Lifts

E. Ronald Finger, M.D., F.A.C.S.

Face lifts are variously called rhytidectomies, rhytidoplasties, meloplasties. The intent of a face lift is to give the illusion of turning back the clock. In order to do this, one must first examine the effects of aging on the face and neck. Generally, when a plastic surgeon speaks of a face lift, s/he is talking about a neck and face excluding the forehead, brow, or eyes. A forehead lift (coronal lift) and eyelid surgery (blepharoplasty) can and is frequently performed at the same time along with other ancillary procedures to be discussed. This article will focus primarily on who may benefit from the procedure, what one can expect from it, some of the ancillary options that can enhance the result, and some of the more common questions that we hear from patients.

Characteristics of the Aging Face

Gonzalez-Ulloa and Associates described the morphology of wrinkles associated with aging: dimin-

This article discusses who may benefit from this procedure, what one can expect from it, some of the ancillary options that can enhance the result, and some of the more common questions asked.

ished thickness and elasticity of the skin, gradual gravitational descent of soft tissues, and the formation of various skin folds created by the sun above and by the contraction of facial muscles, as in frowning, squinting, laughing, etc.^{1,2} The more obvious specific sequelae of time plus gravity (plus smoking, excess expo-

sure to sunlight, and lack of proper nutrition) are:

1. The turkey gobbler or ptotic neck.
2. The jowl, which is the portion of the cheek that hangs down below the mandibular margin.
3. The marionette lines, named after marionette dolls. This is the crease that some develop below the oral commissures, creating the sad or unhappy look.
4. The nasolabial fold and its resulting nasolabial groove — difficult to correct.
5. The lateral orbital wrinkles, or crow's feet, which are creases lateral to the corner of the eye.
6. Sagging brow. The entire brow may sag or just a part of it, such as the lateral brow, creating the sad look. This also can obstruct peripheral vision.
7. The transverse forehead furrows and the vertical frown lines.

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8. The wrinkles in the perioral region created by the constant action of the orbicularis muscle, much more common in smokers.
9. Depression in the mid cheek area, creating the gaunt look not seen in those who are overweight.
10. Longer upper lips, often with thinner upper and lower lips.

Evolution of the Face Lift

Hollander in 1901 was probably the first to perform a surgical face lift. This was followed by Miller in 1906 and Kolle in 1911. In 1919, Bettman was the first to use a continuous incision starting in the temporal region, going around the ear and into the mastoid and occipital regions. This is similar to the incision that we use today. Baines saw the problem of simple skin excision and recommended the undermining of the skin and subcutaneous tissue. The problem of not undermining is the tension on the skin edges which causes the scars to widen and advance forward. A major advancement in face lifts was by Skoog, who reported in 1974 that the tissue beneath the subcutaneous tissue should also be utilized in suspending the face.³ This is now referred to as the superficial musculoaponeurotic system (SMAS) and is continuous with the platysma muscle. The face lift procedure has progressed through the years to involve major undermining of the skin and is now a multi-level procedure involving the deep tissue layers.⁴ This, along with removal of fat by various methods, has afforded us much more dramatic results and the longevity has been significantly extended.

The Plan

There are always certain aspects of the patient's face that are his or her primary concern. This must be discussed openly and completely,



Figure 1 — Coronal incision.



Figure 2 — Face lift incision.



Figure 3 — Areas to be undermined are shaded.

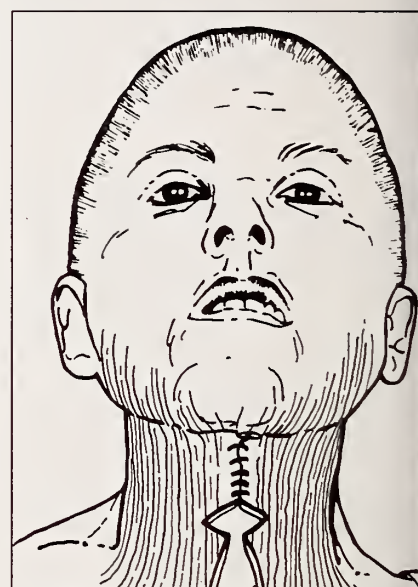


Figure 4 — Plication of platysma bands.

with as much input as possible from the patient. My preference is to explain what our current techniques offer along with the limitations and possible complications. Fortunately, the most common complaints involve the neck and jowl areas since these are the areas that a cervicofacial lift helps the most. As we venture from these areas, we see less correction.

An example is the nasolabial

groove and fold. Ideally, there should be seen when smiling but not in repose. This area can be helped but not eliminated. What we can expect is a softening of the area with less of a shadow in the groove. Another example is the lateral orbital wrinkles which also can be improved but not as much as we would like. A forehead lift may also help with the correction of those two areas.



Figure 5 — (Left) Preoperatively. (Right) Postoperative face and eyelid lift

The fatty neck is approached from two directions: a submental incision about one inch long and through the face lift incision laterally. Most of the fat can be removed, which gives a dramatic improvement. The anterior platysmal bands can be plicated through the submental incision.⁵ Some suction-assisted lipectomy (SAL) may be needed to feather the edges. The excess cervical skin is removed by lateral tension and skin excision in the posterior scalp. Rarely, a direct anterior vertical excision of skin is necessary. We try to avoid this for fear of an obvious scar in the anterior neck.

The jowl cannot be corrected for any significant length of time by simply suturing it superiorly. It must

be removed by excision through the face lift incision and/or SAL. My preference is to use both: the major portion is directly excised, and SAL is used for smoothing the edges and as a means to thin the cheek and mandibular regions, if desired.

The mid cheek can be reduced with a buccal fat pad removal or augmented with a submalar implant. Both can be performed through an intraoral approach. Again, the face must be evaluated to determine what is needed.

The flat malar eminence can be augmented with a malar prosthesis inserted via the lower lid or face lift incision. It must be placed in the subperiosteal plane to prevent a scar encapsulation which causes the implant to buckle and protrude.

The surgeon's judgment, based on the patient's desires, will determine the size of the implant (or if it is needed at all).

The nasolabial fold and groove is difficult to correct to the satisfaction of the patient or surgeon if it is a serious problem. A full fold can be suctioned and thus improve the problem — some, not much. A coronal lift can help some also, according to how it is performed. During the face lift it may be necessary to undermine the skin to the fold and aggressively elevate the SMAS in the infraorbital region. As a last resort, the fold can be excised. This is entirely effective but the resulting scar prevents most surgeons from attempting this.



Figure 6 — (Top Left and Right) Preoperatively. (Bottom Left and Right) Postoperative face and eyelid lift and submalar implants

The transverse forehead furrows and ptotic brow are addressed with a forehead (coronal) lift.¹⁰ This involves an incision from ear to ear across the scalp several centimeters behind the hairline or at the hairline itself (Figure 1). The anterior scalp and forehead skin, subcutaneous tissue, and frontalis muscle are elevated from the frontal bone down to and over the superior orbital rim. This exposes the corrugator muscles which create the frown. A portion of this can be excised along with a strip of frontalis muscle which creates the forehead wrinkles. If the dissection is carried over the lateral orbital rim, some positive influence can be directed toward the nasolabial fold problem with lateral and superior traction on the skin. After the dissection, tension is placed in the flap cranially and excess tissue is excised. This will elevate the frontal hairline. If it is already high, a hairline incision should be used. This incision actually reduces the size of the forehead. The coronal lift is an excellent adjunct to the face lift and is usually performed at the same time.

Lips get longer and thinner with age. The upper lip also turns under and in toward the teeth. The lips can be elevated with a skin excision under the nose and a dermal graft or SMAS graft placed in the lips with a lip incision. These grafts can be utilized in other areas such as the marionette and frown lines.

The perioral or whistle wrinkles are a tough problem as they are never eliminated completely. A chemical peel or a dermabrasion can be used. With a face lift, I prefer the dermabrasion as it is more controllable.

If a chemical peel is needed for a blotchy complexion, fine wrinkles, or actinic changes, phenol or TCA (trichloroacetic acid) may be used. The latter is being used more and more, because it is more superficial, less painful, and there are less pigmentation problems. The

TCA peel can be repeated several times if necessary. The full face cannot be peeled simultaneously with a face lift; only the perioral area is peeled safely.

Technique

A cursory overview of the technique will follow with some duplication of the preceding discussion. It is generally accepted that a face lift requires:

1. Anesthesia — sedation with local infiltration. My preference for sedation is Nembutal and Vistaril, and during the injection, Ketamine. For the local anesthesia, Marcaine or Xylocaine with Epinephrine.
2. Proper skin incisions (Figure 2). All of the tension should be placed in the scalp area and none in the preauricular region or on the earlobes. Lack of strict adherence to this will cause visible scars and earlobe deformity.
3. Undermining the skin and subcutaneous tissue. The extent varies, but my particular preference is beyond the deformity to be corrected, i.e. the jowls, entire cervical area, etc. (Figure 3).
4. Suction-assisted lipectomy (SAL) of the jowl area and/or excision of the localized fat. Suturing it cranially is ineffective in the long run.
5. Removing excess fat in the cervical region, usually by SAL and direct excision.
6. Excision of and plication of the platysma bands through a submental incision (Figure 4).
7. Elevating the SMAS in the preauricular region, exposing the parotid gland, and extending the elevation into the neck by elevating the platysma muscle at its lateral margin. The SMAS is then retracted and sutured superiorly and posteriorly. The excess SMAS is excised and can be inserted as a graft, as mentioned above.

8. Retracting the dissected skin superiorly and posteriorly, excising excess skin and suturing with a layered closure. Bald areas must be avoided in the temporal and posterior scalp with properly planned incision, deep enough dissection, and the proper amount of tension.
9. Ancillary procedures. See below. Major and subtle variations are individualized according to the patient's needs and the surgeon's preference.

Complications

The more common complications are:

Hematoma — 0.8 to 2.9%

Facial nerve injury — 0.1 to 0.8%

The most common nerve injured is the buccal branch of C.N. VII. This is usually minor, however, whereas a loss of the marginal mandibular or temporal branches is more noticeable.

Skin slough — 0.4 to 3.6%

Hair loss — 0.8 to 1.5%

Minor complications include hypertrophic scars, pigmentation changes, edema, earlobe traction, chronic pain.^{7,9}

Ancillary Procedures

Most are mentioned above but as a summary with additional comments, they are as follows:

*Forehead (coronal) Lift.*¹⁰ See under Plan.

Malar Implants. These highlight the cheek bones and help the hypoplastic infraorbital rim. The most common implant used is Silastic and should be placed subperiosteally.

Submalar Implants. These fill in the sunken mid cheek area and can also help reduce the nasolabial fold. They are simple to insert through a superior sulcus incision. This is very helpful in reducing the gaunt appearance that some get with age.

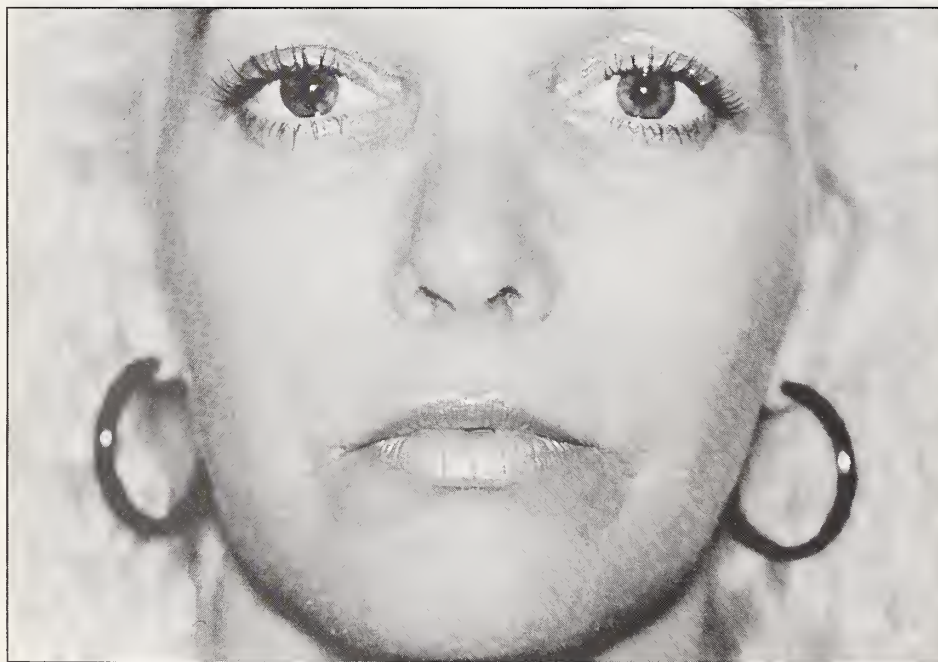
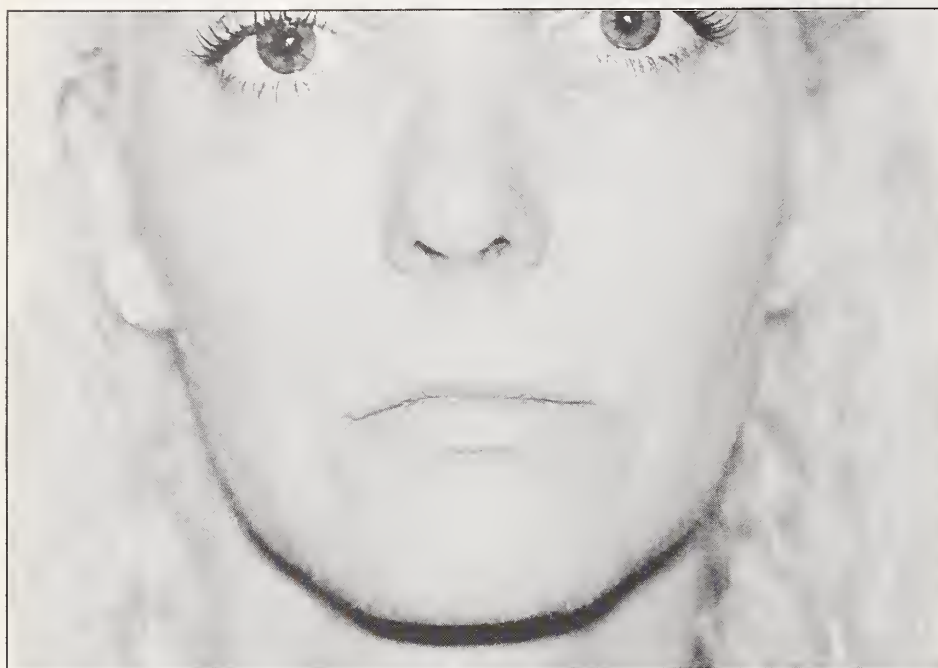


Figure 7 — (Top) Preoperatively. (Bottom) Postoperative lip lift and dermal graft to upper and lower lips

Chin Implant. This is inserted via the submental incision or the inferior labial sulcus. A small chin accentuates any excess adipose tissue in the submental region.

Dermabrasion. A small motorized burr or brush is used. The entire face can be dermabraded but its primary area of use is periorally.

Chemical Peel. The most commonly used agent is 50% phenol.^{11,12} It is effective for fine wrinkles but must be used very carefully. Cardiac arrhythmias can occur. Third degree burns with scarring is a known complication, also depigmentation. TCA (trichloroacetic acid) 35% to

50% is enjoying a resurgence of popularity because of its increased safety, reduced pain, less pigmentation problems, and faster recovery. Most of this is because it is a more superficial peel. Care must still be exercised or scars are possible.

Buccal Fat Pad Removal. This is mainly for someone with a full lower and middle cheek and can be used with a malar implant to highlight the malar prominence.

Collagen Injection. The most common source is bovine and is available in Zyderm I, Zyderm II, and Zyplast. Zyderm I contains 35 mgm/ml, Zyderm II contains 65 mgm/ml, and Zyplast is a form with cross-linked glutaraldehyde and should give a longer lasting result. Repeat injections are necessary in 3 to 6 months.

Fat Injections. This is controversial as the great majority is absorbed. One will not be allergic to one's own tissue, however.

Lip Grafts and Lip Shortening. A contoured excision of skin is removed from the crease beneath the nose to shorten the lip. Lip grafts are from the SMAS or dermis, the latter taken from the inframammary or gluteal crease. This has been a more permanent solution than various injections, and when combined with lip shortening, can give a beautiful lip.

Frequently Asked Questions

1. *How long does the surgery take?* A face lift alone takes from 2-4 hours depending on the surgeon. Adding the forehead lift, adds another hour.
2. *How long is the recovery time?* You will not mind being seen in 1-2 weeks. Make up may be required. Most swelling and bruising is gone in 4-6 weeks.
3. *How long do the results last?* You will always be better off for having had it done, but it does not stop the clock. It usually reduces

the appearance of age by 5 to 10 years. The most durable results are in the neck and jowls. Good nutrition, minimal sun exposure, and eliminating cigarette-smoking aid in maintaining a youthful appearance.¹³

4. *When should I have it done?* Usually when the jowls or neck begin to be ptotic enough to bother the patient. The age varies anywhere from the late 30s to the late 70s.

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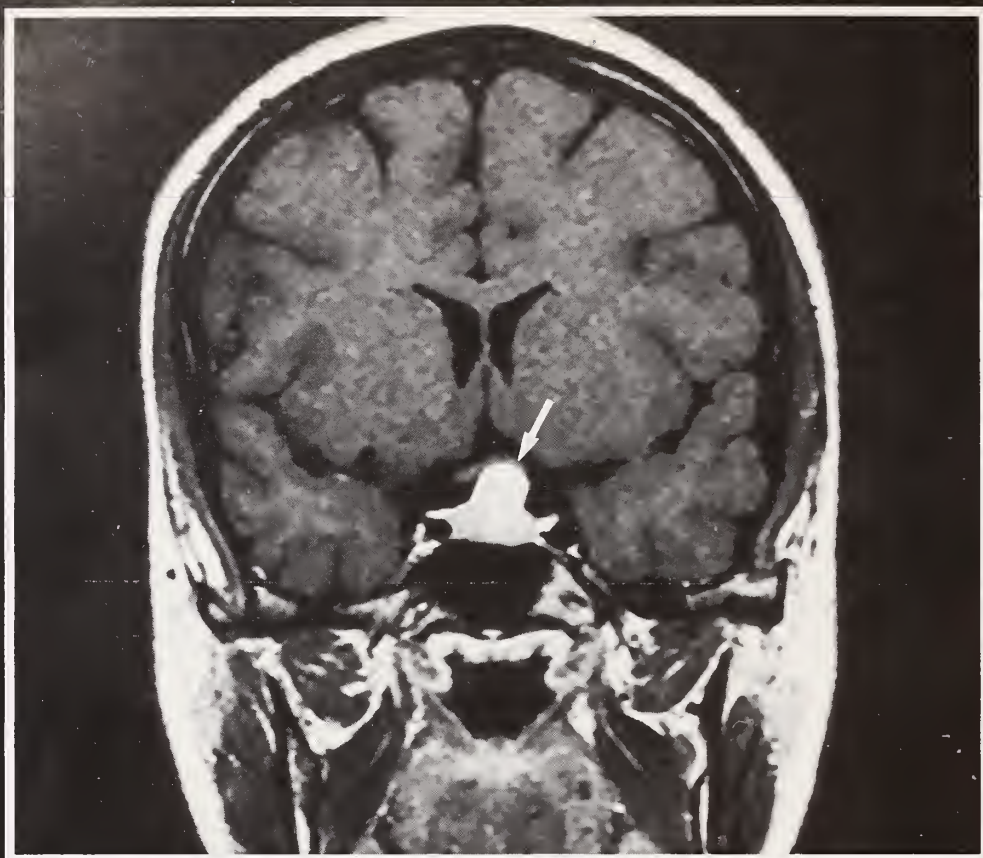
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Rhinoplasty

Paul W. Black, M.D.

"Plain as a nose in a man's face."
FRANCOIS RABELAIS, 1548

Introduction

ANY CONTEMPLATION of changing a feature as important to one's self-identification and self-image as the nose carries with it not only physical concerns but also psychological and social implications. While such things may be accomplished in a very positive way through rhinoplasty, each situation is unique and should be approached with all due respect and seriousness and importance and individuality. Few surgeries can compare with the personal challenge rhinoplasty presents to the surgeon or the potential it carries for personal appreciation by the patient. An overview of nasal reconstructive surgery is presented.

General Considerations

The word *rhinoplasty* incorporates "plasty," a combination form derived from the Greek meaning to

When there is facial disharmony by virtue of this important feature being relatively unflattering, disproportionate, disfiguring, or dysfunctional, then surgical change can make an important contribution physically, functionally, psychologically, and socially.

mold or to give form. In practice, nasal surgery must consider the external appearance (aesthetic/cos-

metic aspects) as well as the internal structure (functional aspects) of the nose.

External rhinoplasty may be carried out for purely aesthetic reasons — altering the form of the nose from less flattering to more flattering (Figures 1A-B); or for reconstructive reasons — altering the form toward normalcy following trauma, congenital deformities, and other conditions such as cancer (Figures 2A-B).

Internal nasal reconstruction is devoted to improvement of the airways for more comfortable breathing and more proper sinus drainage. Traumatic displacement of the nasal septum commonly blocks the airways and may block sinus drainage also (Figure 3A). Malalignment (deviation) is the most common reason for obstruction and can result easily from injuries — some of which patients may have forgotten or overlooked, especially if the injuries happened in childhood (Figure 3B). Straightening the septum (septoplasty or submucous resec-

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tion) may provide dramatic relief (Figures 3C-D).

The thin shelves of the turbinates (a tier of three mucosa-covered bones protruding from each lateral nasal wall) are responsible for humidifying, controlling the temperature, and cleaning inspired air of particulate matter. They occasionally become hypertrophied from allergies or as a result of misdirected air flow from abnormal septal curvatures, and consequently they also can block airways and sinus drainage. If the septum is the culprit, then septoplasty may result in turbinate improvement. But when the condition has been prolonged and destructive, or in chronic allergy, some turbinate reduction may be in order. A person with allergies may find breathing easier and the allergies more tolerable if septal and/or turbinate obstructions are relieved. Improving the airway of a person with allergies may also require the removal of polyps. Smoking, prolonged use of decongestant sprays, dry air, and chronic infection can inhibit normal ciliary action and mucous movement and add further problems. In extreme cases, smell and taste may be affected.

Preoperative Considerations

The surgeon needs to know many things in assessing a patient's need for rhinoplasty. Surgery can be performed on patients of any age after the nasal structures are mature enough. For girls, nasal structures usually are sufficiently mature by the early or mid-teens, and for boys, a year or two later. The patient should be emotionally stable and in good general health. Hypertension or medications (like aspirin) with anticoagulant effects must be dealt with preoperatively. The condition of the skin is important (thick glandular skin will lead to a less predictable, more prolonged, and less precise result).

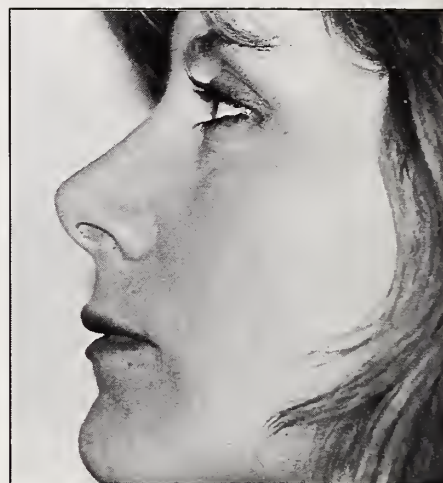


Figure 1A. (Left) Prominent unflattering nose.

Figure 1B. (Top Right) Post rhinoplasty.

Figure 2A. (Bottom Left) Horse injury — dorsum depressed, septum deviated.

Figure 2B. (Bottom Right) Post septal cartilage graft dorsal reconstruction and internal reconstruction.



The surgeon must assess the shape of the face, the total profile (including the chin), nasal width, shape and size of nostrils, width of nostril base, nasolabial angle, dental bite, and internal nasal structures. The final surgical recommendation must take all of these factors into account and be based on a surgical

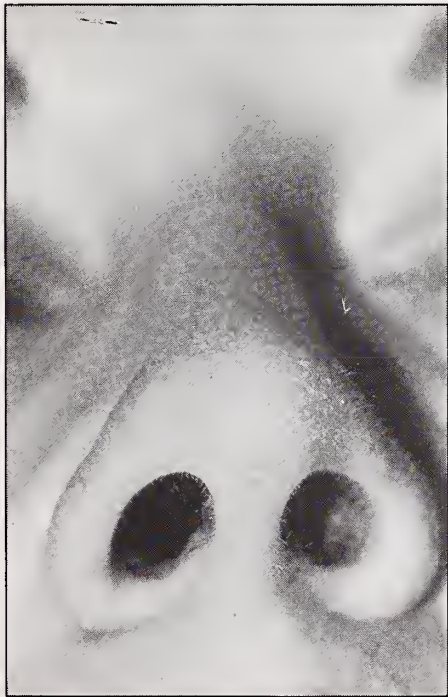
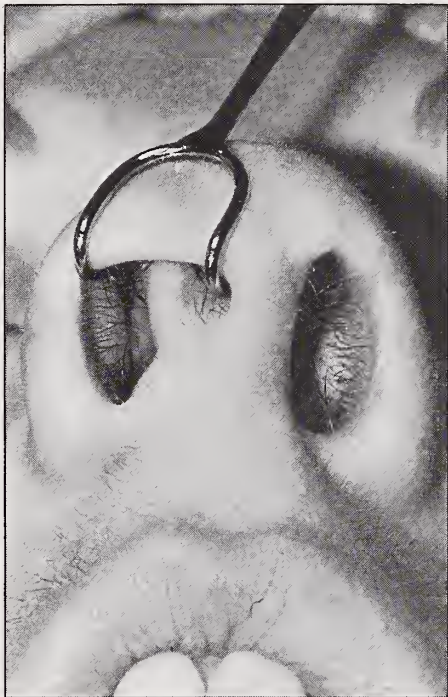
plan custom designed for the unique features of each individual case.

The patient also needs to know many things to understand his or her particular problem and the surgeon's proposals for treatment. The patient needs to understand the operative procedure, anesthesia, out-

patient or inpatient system, and what to expect before, during and after the surgery. Patient education must include risks, complications, predictability of results, insurance considerations, and the possibility of secondary surgery. Commonly, insurance coverage is written for benefits toward functional (internal) improvement only; surgery done to alter the appearance (external) is not covered unless the patient has had a documented injury while the policy was in effect. Exceptions may include congenital anomalies and cancer cases. For the same operation, internal reconstruction benefits may vary 100 to 200 percent or more from policy to policy, each policy claiming its amount to be usual and customary. The surgeon and patient are at the mercy of the patient's ability to heal after nasal surgery; rarely, a change may take place that might require some later (secondary) surgery. It is normal for patients to experience considerable anxiety about facial change, especially when the surgery is purely of their own election. Appropriate understanding and support from the surgeon is important.

The Operation

Successful rhinoplastic surgery must incorporate science, technology, and art into an effective surgical method to produce an individualized and appropriate and pleasing sculpture which is also physiologically correct. The surgical goal, therefore, is to alter the nose positively (aesthetic improvement) or to restore form and function (reconstruction). The ideal is to provide a flattering appearance and also maximum airway space, sinus drainage, and breathing comfort. The procedure most commonly is done in an outpatient setting. This may be in an appropriate office surgical suite or freestanding or hospital-based outpatient surgical center.



Figures 3A-B. Post injury — septum dislocated to right and deviated to left (mid) and nose is crooked.

Figure 3C-D. (Bottom Left and Right) Postoperative internal and external.

The exact method of surgery should be chosen according to the patient's needs. Most nasal alterations are done through internal incisions (which are not apparent), allowing the surgeon to lift the skin

away from the bones and cartilage, reshape these structures, and let the skin drape back down. Sometimes an external incision is made around the alar base or into the nasal floor. Occasionally, an incision



Figure 4A. Prominent nose, receding chin.

in the upper labial sulcus is used to lift the midface as a flap and uncover the nasal skeleton for a direct view for reconstruction. Cartilage grafts taken from the nasal septum or from ear cartilage are sometimes used to add strength or allow contouring (Figures 2A-B). Bone grafts are used rarely.

Septal surgery usually involves removal and/or rearranging of obstructive cartilaginous and bony components and subsequent central realignment. Turbinate surgery is limited to direct reduction of these structures to more normal proportions when they are chronically hypertrophied, thereby improving the airway and reducing blockage while retaining the important turbinate functions. Internal and external nasal surgery can be done independently or at the same time (Figures 3A-D), depending upon patient needs. Nasal packing gauze is usually used (although not always) to help with hemostasis and support, and an exter-

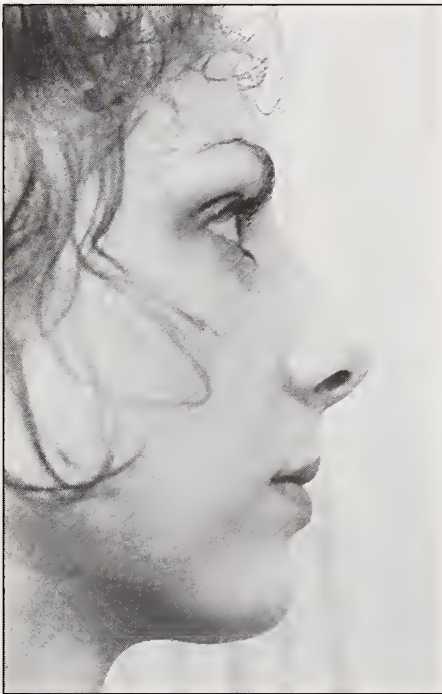


Figure 4B. Post rhinoplasty and chin augmentation.

nal splint is used for protection and stabilization.

In some cases, combining rhinoplasty with surgical alteration of the



Figure 5A. Prominent nose, receding chin.

chin may create a more properly balanced profile (Figures 4 A-B and 5 A-B). Chin augmentation can be a remarkably nice additional enhancement. It is ordinarily done by making a very small incision in the lower labial sulcus and placing an alloplastic implant on the anterior mandibular prominence. There are some circumstances in which direct bone surgery also may be appropriate for altering the mandibular prominence.

Most outpatient rhinoplastic surgical procedures involve an hour or so of preoperative preparation, one to two hours of surgical time, and an hour or two of observation thereafter. Local anesthesia with a vasoconstrictive agent is used with a light general anesthesia or intravenous sedation. The patient is discharged to the care of a responsible person and with full instructions about postoperative management, medications (probably a pain pill and an antibiotic obtained previously) and a follow-up appointment. The surgeon checks on the patient by phone that evening.



Figure 5B. Post rhinoplasty and chin augmentation.

Postoperative Expectations

Some edema and discoloration builds up for a day or two and then gradually subsides. Packs are usually removed in one to three days, and the splint ordinarily stays one to two weeks. Because of the healing internal incisions, vigorous cleaning of the airways is best deferred a week or two as are activities expected to result in raising the blood pressure. Some stuffiness and numbness are expected for a time. Patients are advised to avoid injuries to the nose for 6 to 8 weeks postoperatively. Sometimes the skin may be a bit irritated from having been covered by the splint, and exposure to the sun should be avoided until the skin is normal.

Most patients attain a reasonable appearance about two weeks after surgery. Little spontaneous refinements may take place for some months thereafter, with the loss of slight amounts of edema and the normal maturation of healing. Patients commonly experience a very positive personal psychological adjustment when they see that the surgery has brought about a positive physical change. Each patient should have his or her own distinctive result, so that the nose seems to be a normal and pleasing feature, blending proportionately with the rest of the face as well as being functionally sound. When the nose is a strong unflattering feature, it can steal attention from an otherwise handsome face; when this is corrected, the whole face may seem more attractive (Figures 4 AB and 6 AB).

Special Cases

While the majority of nasal reconstructions are aimed at corrections following rather ordinary injuries (Figures 2, 3, and 6), many cases present more extreme and varied challenges. These include congenital deformities such as varieties of clefting, the bifid nose, der-

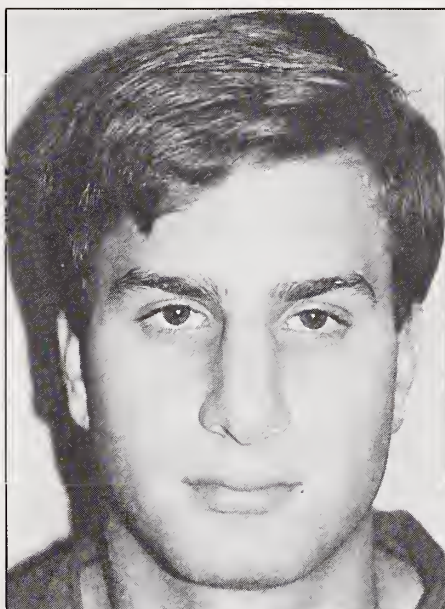


Figure 6A. Post injury — wide prominent nose with septal deviation.

Figure 6B. Post external and internal reconstruction.

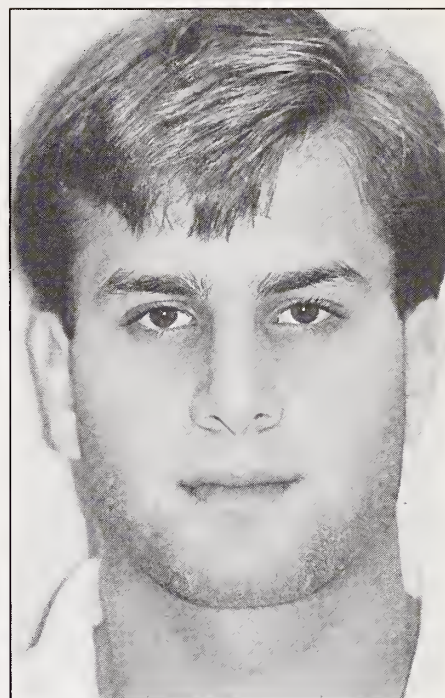
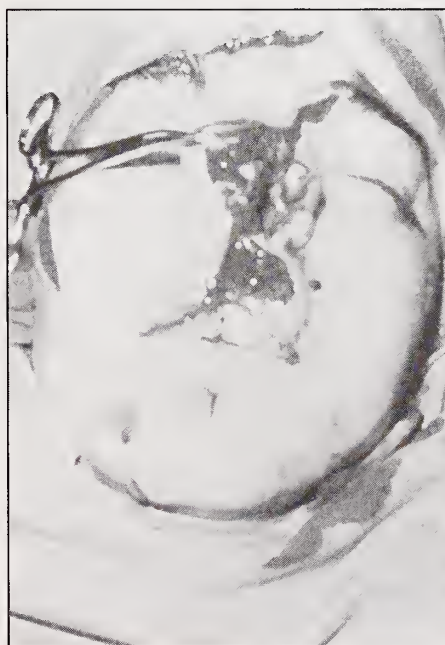


Figure 7A. Auto injury — soft tissue, cartilage, bone.

Figure 7B. Post primary repair.

moid cysts, and hemangiomas. Another category is the noninjury-related acquired deformities, such as those of cancer treatment, rhinophyma, and septal perforations. Severe destructive trauma is worthy of its own classification and includes massive crush injuries, severe soft tissue lacerations (Figures 8 A-B),

bites, and gunshot wounds. Each case presents the plastic surgeon its own problems, and its specific solutions will be unique. Often it is necessary to use tissue grafting (bone, cartilage, skin) and/or full-thickness tissue flaps. Frequently, the reconstruction must be staged in two or more procedures.

Another specific category of rhinoplastic reconstruction is that of secondary rhinoplasty (Figures 8 A-B). A patient may have had a previous nasal operation that fell short of the patient's or surgeon's expectations. Further surgery might be appropriate if the patient is not satisfied and has realistic expectations. Secondary surgery to make such corrections can be extremely challenging and gratifying.

Summary

The nose is one of a person's most noticeable features, a feature with which he or she personally identifies and by which he or she may be known and recognized by others. When there is a facial disharmony by virtue of this important feature being relatively unflattering, disproportionate, disfiguring, or dysfunctional, then surgical change can make an important contribution physically, functionally, psychologically, and socially. Rhinoplasty involves a considerable normal concern on the part

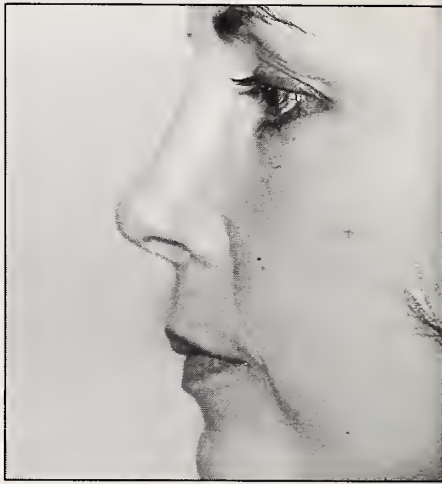


Figure 8A. (Left) Status post previous rhinoplasty per history — profile problem and septal problem.
Figure 8B. (Top) Post secondary rhinoplasty and internal reconstruction.

of the patient and presents a very significant professional challenge to the surgeon. Both the patient and the surgeon are likely to receive a great deal of personal satisfaction from surgery well done.

“Cleopatra's nose, had it been shorter, the whole face of the world would have been changed.”
BLAISE PASCAL, 1656

Blepharoplasty

Dianne Leeb, M.D.

BEAUTY, character, and age are all seen by looking at a person's eyes. If eyes cannot be seen, they cannot be the window into the soul. Patients, however, rarely express their complaints poetically, although some of the poetry of expression and beauty is gone when the eyelids sag and become baggy. Usually they say they are being told they look "tired" or "sad" or "too old." There are few other procedures that give as wonderful a trade-off between large change in appearance and low discomfort as blepharoplasty.

Sagging eyelids can also be a functional problem when the visual field is partially occluded. Extreme visual field loss can be an actual hazard while driving a car, while less extreme problems can still be a reason for losing a job as an airline pilot.

Aging eyelids can be obvious even to a non-physician. As with other physical findings, there can be multiple causes leading to the same change in appearance.

Blepharoplasty is useful for eyelid changes caused by excess eyelid skin, hypertrophic orbicularis oculi muscles, or bulging fat pads.

Blepharoplasty is useful for eyelid changes caused by excess eyelid skin, hypertrophic orbicularis oculi muscles, or bulging fat pads (Figure 1). Blepharoplasty may help but will not solve problems caused by diagnoses such as: forehead-brow ptosis (Figure 2), eyelid ptosis, myasthenia gravis, thyroid problems, etc. Blepharoplasty will not remove fine-line wrinkles or crow's feet creases.

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Blepharoplasty is done by removing the overabundant tissues.² Scars on the upper eyelid are planned to lie in the first crease and to carry out laterally in the general direction of the "crow's feet." While the plan is to have the final scar in the position noted, the excess skin is removed from a broader area. Once the skin is removed, any redundant orbicularis oculi can be seen and is removed. Fat pads beneath the septum orbitale are then approached. How much fat will be removed is a judgment call, since removal of too little is seen as remaining "bags," while removal of too much can give an empty socket look.

Lower lid scars are planned to lie just beneath the lashes and carried out into the natural crease area laterally. In patients without excess skin or muscle, the incision can be placed within the conjunctiva. The rest is individualized depending on the problems to be solved, but consists of either a skin or skin-muscle flap being raised down to the infe-

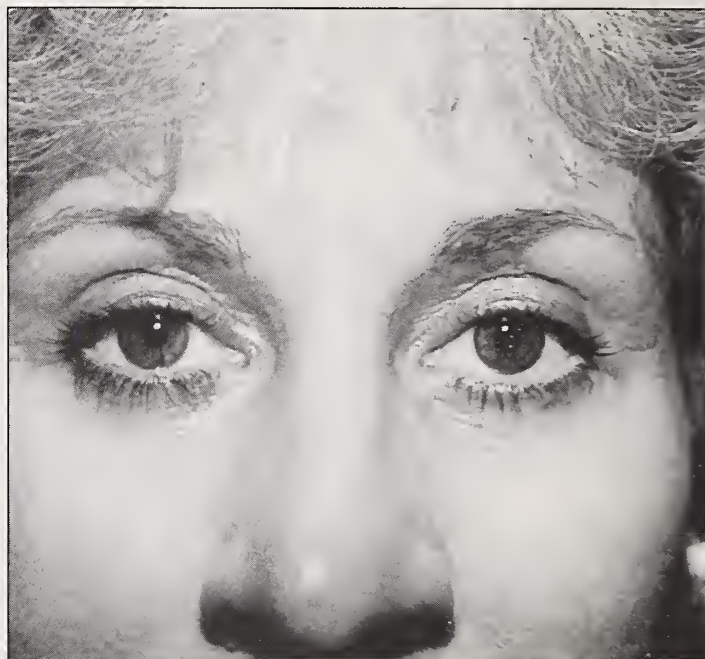


Figure 1 — Bulging fat pads are removed for this patient, helping her look more well rested and happy.

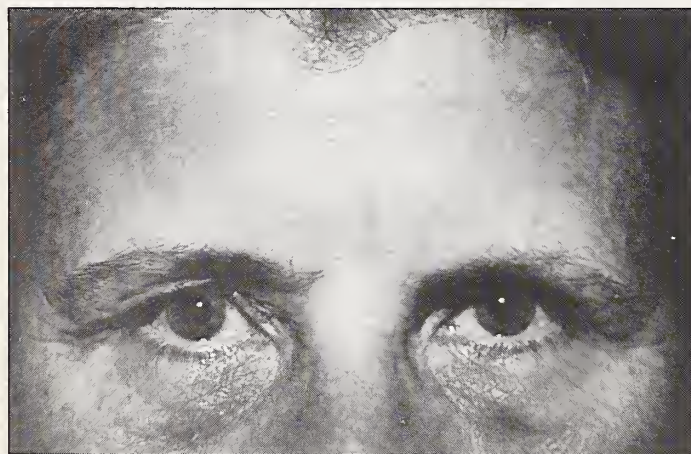


Figure 2 — Blepharoplasty can help, but will not solve, problems caused by forehead-brow ptosis. This is an example of a brow lift.

rior orbital rim. The fat pads are then approached beneath the septum orbitale. Again, experience and judgment tell how much fat to remove. Removal of excess skin and muscle has to allow for facial expression in its extremes. Patients are warned that looking "right" in a mirror may not mean looking "right" with the mouth open due to loss of skin elasticity, and that functional activities have to take precedence over aesthetic considerations.

Suturing in both upper and lower eyelids is done with fine material, and the sutures are removed early. At times, a lower lid needs extra support, and a Frost suture or internal supporting suture is placed.

Blepharoplasty is usually performed as an outpatient procedure under local anesthesia or IV sedation, but some doctors and patients prefer general anesthesia. Patients differ in the amount of postoperative bruising they exhibit. Most bruising is gone or can be covered

by make-up within a week. Pain is not usually a dominant complaint. Head elevation, suture line lubrication, ice bags, and artificial tears are more important than pain medication both for comfort and healing.

As with any operation, problems can occur. Some are avoided by careful pre-operative planning including a thorough eye examination. Even so, patients are warned

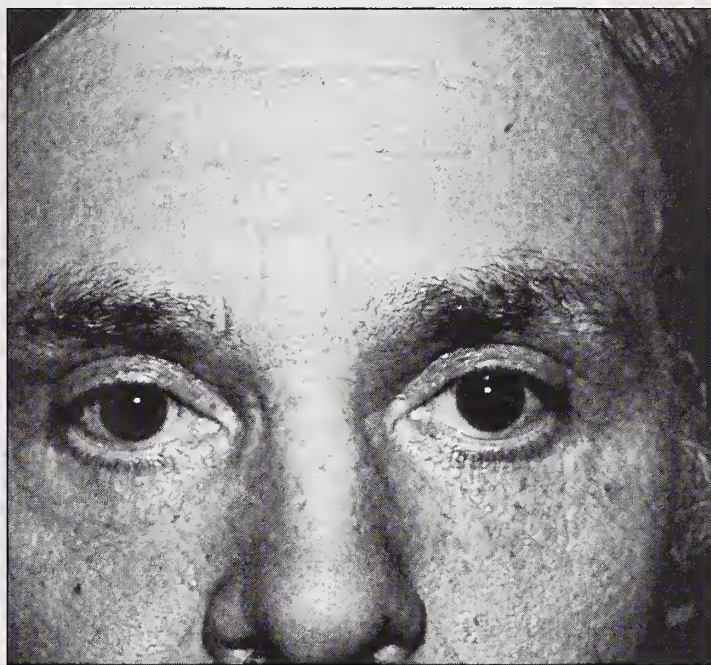
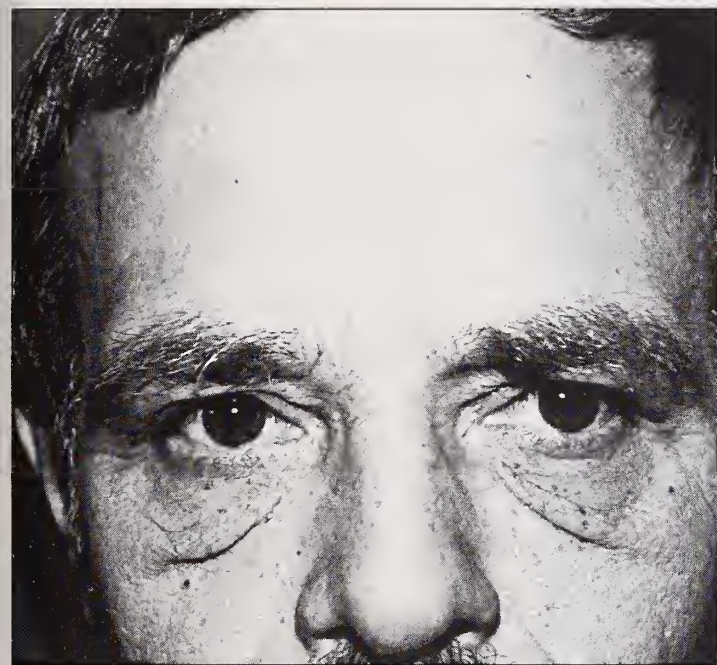


Figure 3 — An increasing number of men (16%) have chosen to have blepharoplasty done, making it one of the most common cosmetic procedures for men.

about the scars, ectropion, dryness of the eye, problems with contact lenses, infection, changes with the years, what will not be helped, and, by far the scariest and rarest problem, blindness. Patient's are also warned that their friends will rarely comment on the changes directly, but will usually say things such as "you look well-rested" or "happy."³

Other functional and cosmetic procedures can be done at the same time as blepharoplasty. It requires knowledge, experience and common sense to decide what combinations are appropriate (Figures 4, 5).

Lay press stories are seen on "laser" blepharoplasty. Scientific studies show no benefit to using a laser in this procedure.⁴ Suction lipectomy has no place in dealing with the fat causing eyelid bags.

According to statistics provided by the American Society of Plastic and Reconstructive Surgeons, there was a 40% increase in the number of patients undergoing blepharoplasty from 1981 to 1990. There will probably be more than 80,000 patients undergoing blepharoplasty by Board Certified Plastic and Reconstructive Surgeons in 1991.

While most blepharoplasty patients are women (84%), an increasing number of men (16%) now choose to have the procedure. This makes it one of the more common cosmetic procedures for men. Women usually ask for eyelid surgery to help them feel better about themselves, but for some it is necessary in order to obtain or retain jobs in our youth oriented society.

While men do it for the same reasons as women, historically they have denied the cosmetic motivation.

In conclusion, blepharoplasty is one of the most common procedures in aesthetic surgery and is likely going to remain so. Blepharoplasty is one area of plastic surgery where a patient's demands for change can be met with a surgical procedure that offers relative comfort and safety.

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Lasers in Plastic Surgery: An Expanding Frontier

Lovic W. Hobby, M.D.

The natural history of portwine stains is not fully appreciated by a significant number of physicians. Some tend to dismiss this tumor as a "blemish" or as a "purely cosmetic problem."

a set of mirrors, and a delivery system. The energy source, usually electrical, stimulates the electrons in the medium to an excited state in which protons are emitted. The end product of this stimulation is a light emerging from the delivery system. It is monochromatic (a single wavelength), coherent (very intense), and columnated (does not disperse).

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The lasers which are most often used in plastic surgery are those which are known as photocoagulation lasers. There are various lasers in this class, but they all have in common wavelengths which are absorbed by the color red. This red color target is called a chromophore. The absorption of light energy results in a transfer to heat energy, thereby creating a heat source within the very vessels to be destroyed. The end result is a very selective destructive process. There are other lasers used in plastic surgery that do not photocoagulate. These will be discussed later.

Use of the Argon Laser for Portwine Stains

The Argon Laser was the first of the photocoagulation lasers.^{1,2} It was the work-horse for the treatment of superficial vascular lesions throughout the 1980s. It produces two principle wavelengths (488 and 514 nm) and results in a blue-green light. When properly used, this laser was able to produce mag-

THE WORD "LASER" is an acronym for Light Amplification by Stimulated Emission of Radiation. This concept, first introduced by Albert Einstein in 1917, became a clinical reality in 1960 when the Ruby Laser became available. Ophthalmologists pioneered the medical application of lasers, and retinal work with the Argon Laser was common by 1965. Goldman introduced this same laser as an entirely new approach for the treatment of superficial cutaneous vascular lesions shortly thereafter. In 1969, plastic surgeons became actively involved in this field at the Palo Alto Medical Clinic, and by 1975, four centers for the treatment of superficial vascular lesions existed. By 1980, these had doubled, and now many hospitals, clinics, and offices have lasers throughout the country.

There are various types of lasers used by many different specialties, providing solutions for multiple medical problems. All lasers have a few things in common. Each has an energy source, a lasing medium,

nificent results in the treatment of lesions which heretofore had been untreatable. It carried with it the risk of possible scarring, hyper or hypopigmentation, and skin texture changes. Its tendency to produce scars at a significantly increased rate prior to puberty precluded its use in the treatment of portwine stains until the late teenage years. Portwine stains comprised the bulk of the lesions treated by the Argon Laser. These are intradermal capillary hemangiomas that are present at birth and usually tend to worsen with age. The lesions usually hypertrophy at puberty and then continue to become darker and larger as the decades progress. By the fifth or sixth decade, there is usually lesional and structural hypertrophy where the tumor is located.

In contrast to the practice in recent decades, laser therapy in the very early growing strawberry hemangioma is now endorsed wholeheartedly.

The natural history of portwine stains is not fully appreciated by a significant number of physicians. Some tend to dismiss this tumor as a "blemish" or a "purely cosmetic problem." The truth is that most of these lesions with a dark color on the face will go on to hypertrophy into a three dimensional spongy lesion with individual bubbles or cobblestones. Some progress to hideous deformities akin to large clusters of purple grapes on the face. Structural and lesional hypertrophy, however, can be the least of the problems.

Unilateral glaucoma is found in 20% of those patients who have both lids of the same eye involved.

Sturge-Weber syndrome is seen in approximately 10% of cases. If over 50% of the face is involved, this is particularly true. This syndrome also includes angiomas of the brain and choroidal membranes of the eye. Seizures, retardation, and blindness can occur.

Klippel-Trennemann-Weber syndrome occurs in approximately 5%. Hemangiomas covering the majority of an extremity can cause accelerated bone growth resulting in unilateral gigantism.

Von Hippel-Lindau disease involves retinal and cerebellar vascular lesions as well as adenomas and cysts of the internal organs, especially the kidney and pancreas.

In addition to these relatively common three syndromes, there are five others that list portwine stain as a part of their pathology. They are Rubinstein-Taybe Syndrome, Wiedemann-Beckwith syndrome, Cutis Marmorata Telangiectica Congenita, Trisomy-15, and Klinefelter's syndrome (XXY).

Weber-Osler-Rendu syndrome appears to have the same histopathology, although it is genetically transferred and involves the mucous membranes.

As experience accumulated in the use of Argon Laser therapy for portwine stains, it became apparent that some patients responded better than others. A four-point profile emerged for patient selectivity:

1. The patient should be at least a year past puberty.
2. The hemangioma should be on the head or neck.
3. The patient's complexion and the color of the lesions should have a satisfactory amount of color contrast.
4. The lesions should not blanch on pressure.

If a patient did not satisfy all four

of these requirements, success could not be predicted dependably. Then test spots were used to further assist the prognosis of treatment.

Unfortunately, the necessity to wait until after puberty in order to reduce the likelihood of scarring allowed the hemangioma to follow its natural history and resulted in many patients having structural hypertrophy. This does not respond to laser therapy and must be approached through conventional plastic surgery procedures of sculpting and debulking. The end results of these procedures are less than optimal.

The photocoagulation properties of the Argon Laser are applicable to almost all other superficial vascular lesions. If the pathology presents a red color target and is within 1 to 1.5 mm of the surface of the skin, a favorable response can be expected. Telangiectasias, intraoral hemangiomas, acne rosacea, cherry hemangiomas, spider hemangiomas, and various angiofibromas all respond favorably. Superficial varicosities of the lower extremities do not respond.

Strawberry Hemangiomas

This author has had a special interest in the hemangiomas of infancy, or strawberry hemangiomas. Usually these lesions are not present at birth, but appear in the second week of life as a small red spot. They grow rapidly over a period of several months and may grow into huge tumors. They will then reach a plateau and finally begin to regress. This regression can continue for several years. The final state of regression obtainable is not predictable until there has been no further regression for at least a year. The best scenario is that the vessels comprising the tumor are sclerosed completely, thereby leaving no red color and a marked decrease in the bulk. The skin occupied by the hemangioma, however, will never

be normal. If it were located in an area of vital anatomy such as the eyelids, the nose, etc., there will be significant anatomical deformity remaining even if there is complete resolution of the vascularity of the tumor.

If these tumors can be treated when first noticed, at age 1 or 2 weeks and at a size of 1 or 2 mm, the tumor can be eradicated at this point. The clinician and the parents are thus spared the agonizing months of watching it grow, not knowing how large it will get or what it will destroy. As long as the tumor is growing, treatment is indicated. The main goal of treatment is to arrest the growth of the tumor. In a significant number of cases, moreover, premature resolution of the tumor is precipitated.

There are some indications for the treatment of static strawberry hemangiomas as well. They can be causing functional problems, such as amblyopia (upper eyelid), airway obstruction (nostrils), or hygienic dysfunctions (perianal, vaginal, etc.). In addition, they can be subject to chronic trauma causing bleeding or ulceration. Usually, treatment results in a significant shrinkage of the tumor, relieving most of the above problems. Treated areas tend to heal in an orderly manner, thus curing the non-healing ulcers.

If, when the child reaches age 6 and there is no further regression in the tumor in the past year, the laser may again be useful. Many partially resolved strawberry hemangiomas still contain a significant amount of vascularity. This can be reduced by the laser prior to conventional plastic surgery for correction of the residual deformities.

Awareness of this modality has been slow in coming to the medical profession. In spite of multiple publications, there still seems to be a general lack of awareness of this solution to a rather severe problem. For decades we plastic surgeons

Yellow Light Lasers have an improved wavelength which is more specifically absorbed by the oxyhemoglobin chromophore and less absorbed by the melanin chromophore than the Argon Laser.

have preached to leave these lesions alone, let nature do what is possible in the way of resolution, and then reconstruct the residual deformities. This is no longer the treatment of choice. Laser therapy in the very early growing strawberry hemangioma is now endorsed wholeheartedly by all those who have expanded their expertise to include laser surgery.

Significant documentation of the efficacy of Argon Laser treatment for growing strawberry hemangiomas has been published in the medical literature for 10 years. Apfelberg was the first to advocate this modality in 1981.³ His work was reproduced by this author and published in 1983.⁴ Subsequent to this, indications for this procedure have been reiterated in multiple journals by various authors.⁵ Hopefully, soon, the tedious process of re-education within the medical community will show some significant progress.

The Argon Laser can be used in the removal of tattoos also, both decorative and traumatic. The laser power is increased to a point where it becomes a modality of bloodless dermabrasion. Photocoagulation no longer plays a part. Epidermal and dermal layers are "painted away" with the laser until all tattoo pigment is exposed. The pigment

then exudes during wound healing to obtain the final result. There is a significant risk of scarring, hypo and hyperpigmentation, and texture change. A modification of the original Ruby Laser is now showing great promise in the removal of black and blue homemade tattoos.⁶ This laser requires multiple treatments but does not cause scarring. Unfortunately, it is very expensive, and the patient population able to benefit from it is limited.

Yellow Light Lasers

An exciting addition to Argon Lasers in the photocoagulation group is the new generation of Yellow Light Lasers. This is an improved wavelength which is more specifically absorbed by the oxyhemoglobin chromophore and less absorbed by the melanin chromophore than the Argon Laser. There is less non-specific damage, making the tendency to scar significantly less and making possible the treatment of very young children. There are three main types of lasers in this new wavelength which ranges from 577 to 585 nanometers.

The Copper Vapor Laser uses copper ore as a lasing medium. It produces the clinical equivalent to a continuous wave and has a capability of a very small spot size down to 100 microns. This capability has been responsible for the development of a new modality of treatment involving the tracing of each vessel. This is particularly helpful in lesions where individual vessels are visible, such as spider angiomas. However, it becomes most time consuming in the more homogeneous lesions such as portwine stains. It can be adapted to a robot device which rapidly delivers a series of 1 mm spots over a grid pattern slightly larger than 1 cm in diameter. This facilitates the treatment of large areas.⁷

A second Yellow Light Laser is a Tunable Dye Laser activated, or pumped, by an Argon Laser. It de-



Figure 1 (Top)¹¹ — Dark purple lesion with significant hypertrophy before (left) and after (right) two treatments with the Argon Laser.

Figure 2 (Bottom)¹¹ — Adult with the intraoral hemangioma before (left) and after (right) one treatment with the Argon Laser.

rives much of its popularity by virtue of its ability to tune to the 577 nanometers wavelength. It, too, has a small spot size adjustable down to 50 microns and is used in the individual vessel tracing tech-

niques. It can be adapted also to a robot delivery system.

Finally, the Flashlamp-pumped Pulsed Dye Laser not only presents with the new, more desirable wavelength but also a totally new energy

delivery system. Continuing research in the interaction of laser energy and tissue containing an intradermal capillary hemangioma shows the importance of this new energy delivery system. A given



Figure 3¹¹ — (Top left and right) Strawberry hemangioma of infancy before and after one treatment with the Argon Laser. Figure 4¹¹ — (Middle left) Dark purple portwine stain with significant lesional and structural hypertrophy, preoperatively. (Middle right) Maximum improvement obtainable after three treatments with the Argon Laser. (Left) Final result after multiple stages of conventional surgery consisting of a horizontal lazy S elliptical excision of tumor within the brow line, a vertical excision of tumor in the temple area made possible by tissue expansion, and excision of the remaining eyelid tumor repaired by a full thickness skin graft.

type of tissue will retain heat for a certain amount of time before it begins to spread to surrounding tissues. This amount of time is called the thermal relaxation time.⁸ The blood vessels making up the intradermal capillary hemangioma have demonstrated that they can retain heat up to an interval of 1 to 10 milliseconds. After this, the heat begins to disperse to surrounding tissues and causes non-specific destruction. The Flashlamp-pumped Pulsed Dye Laser has been designed to deliver a yellow light at 585 nanometers in a massive bolus of energy with only a 450 microsecond pulse width.

This delivery system actually causes a bruise to the vascular tissue by the bolus of light. All other photocoagulation delivery systems, including the other Yellow Light Lasers, cause some degree of burn on the epithelial surface. The clinical significance of this is immediately obvious so far as the increased ability to treat patients with portwine stains early in life. The latest standard of care, recently pronounced at the national meeting of the American Society of Laser Medicine and Surgery, encourages treatment of portwine stains beginning within the first month of life. It has become obvious over recent years that the earlier the patient is treated with the Yellow Light Lasers, the more rapid and dramatic the response. There are three other benefits of early treatment. Obviously, the cumulative psychologic trauma of the lesion would be markedly reduced. The tumor itself would be vastly smaller, and treatment could be accomplished quite rapidly. Although this is, of course, theoretical at this point, one would hope that early treatment would prevent that structural hypertrophy which is so difficult to correct once it has occurred.

The problems involved with the Flashlamp-pumped Pulsed Dye Laser from a clinical standpoint are

that multiple treatments are required, and only the pale, flat childhood type hemangiomas are uniformly responsive. Non-clinical problems include the extremely high initial cost of the equipment plus exorbitant maintenance fees, dye change costs, and other periodic expenditures.

Nd-YAG Laser

The Nd-YAG Laser (Neodymium-Yttrium Aluminum Garnet) is a solid state laser producing a wavelength of 1,060 nm in the infrared spectrum. With this high a wavelength, deeper penetration can be obtained than with the Argon Laser. This laser has been used as a cutting and puncturing modality. Recently, a synthetic sapphire tip has been added to the end of the fiberoptic device, and an entirely new laser modality has developed called contact surgery.⁹ The surgeon actually touches the sapphire tip to the tissue and cuts, eliminating the "air interface." This provides significant hemostatic advantages, especially in vascular situations such as the resection of giant infant hemangiomas. Preoperative selective embolization further reduces the danger of exsanguination in these procedures. Bloodloss is also reduced in such conventional procedures as reduction mammoplasty, abdominoplasty, etc., but operating time is greatly increased. Since there is usually no significant problem of blood loss during these procedures anyway, the advantage of its routine use is highly questionable.

CO₂ Laser

The CO₂ Laser is used extensively by many specialties. This wavelength is far out of the visible light spectrum at 10,600 nanometers. Its chromophore, or target, is any tissue containing water. Applications range from a very narrowly focused beam, which can be used for cut-

The lasers which are most often used in plastic surgery are photocoagulation lasers. There are various lasers in this class, but they all have in common wavelengths which are absorbed by the color red.

ting, to a widely defocused beam which can be used for "painting." It has been an invaluable addition to certain specialties. It has been useful in plastic surgery, but — in contrast to the photocoagulation lasers — it offers very little advantage in most procedures over what was already being accomplished by conventional means.

Unfortunately, there has been a considerable amount of intentional misconception promoted about the Nd-YAG Laser with Sapphire Tips and the CO₂ Laser. The news media has sponsored a love affair between the lay public and any type of laser for several years. This, along with unscrupulous advertising on the part of certain laser companies as well as physicians, has created a laser myth. Most patients now are firmly convinced that anything done with the laser will have a better result than if done conventionally. This is often not the case. The opposite may be true.

In plastic surgery, this is particularly noted in the promotion of some cosmetic surgery practices. This usually involves eyelid surgery, face lifts, and sometimes even rhinoplasties. The "party line" is that these lasers reduce swelling, bleed-

ing, or postoperative pain. Of course, there is usually no significant swelling, bleeding, or postoperative pain associated with these procedures anyway. There is a significant increase in danger, as well as an increase in operative time, cost of the procedure, personnel, and space required.¹⁰ Also, it is a fact that any incision made with the laser requires scalpel re-excision of the edges in order to obtain the most optimal scar result. After considering all these factors, one must entertain significant doubt as to the wisdom of introducing lasers to perform procedures which already were being done in a quite satisfactory manner. Good common sense, as well as medical ethics, would dictate that lasers should only be used when they provide a better solution than conventional modalities.

No summary on the use of lasers in surgery, however, should end on a negative note. Truly exciting procedures are being done which have never been possible before. Laser surgery is expanding at a very rapid pace. There are many new lasers on the immediate horizon. We can only guess at this time as to their ultimate applications. All physicians should at least be aware of what current laser surgery has to offer. The plastic surgeon is especially encouraged about the treatment of portwine stains and strawberry hemangiomas of infancy. The addition of photocoagulation surgery to conventional plastic surgery provides an excellent armamentarium to obtain maximum final results.

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Correction of Ear Deformities

Mark Mitchell Jones, M.D.

Introduction

THE CORRECTION of external ear deformities offers a difficult surgical challenge. This is largely because there are numerous types of congenital ear abnormalities, and each can demonstrate a wide degree of variation. One might say that there is found regularly irregularity of congenital ear abnormalities, and therein lies the challenge.

The range of congenital ear deformities is immense — from gigantic ears to miniature ears, from wide to narrow, from lack of folds to lack of earlobes. The cup ear, lop ear, lidded helix, canoe ear, cockleshell ear, and constructed ear are all colloquial terms for different variations of ear deformities. However, the two most commonly encountered are microtia and prominent ears.

Prominent Ears

The correction of prominent ears is the most common surgical procedure. However, there is no single

History and experience has repeatedly demonstrated the advantages of autogenous cartilage frameworks over silastic framework implants.

operative procedure for this problem, and multiple surgical techniques are described throughout the literature. Ear deformities are variable and may or may not be multiple. First, there is the failure of development of the antihelical fold which may be the sole etiology of the abnormality or only a partial contributor. Another problem may be hypertrophy of the concha which tends to affect the middle

third of the ear to a greater degree than the upper third. In contrast, the upper third is affected to a greater degree by the antihelical fold underdevelopment. A third common problem causing the prominent ears is overgrowth or malposition of the cauda helix — an appendage of the cartilaginous framework that projects the lower third of the ear as compared to the other thirds. Whereas these three anatomical variations may each by itself cause the ears to appear excessively prominent, it is not uncommon that each contributes to the overall perception of big ears.

The correction of one of the anatomical variables, i.e., the lack of development of the antihelical fold, the overgrowth of the concha, or the prominence of the cauda helix, involves different surgical mechanisms. Though there may be other anatomic deformities causing problems which warrant consideration of correction, they are less common. Ideally, one would select a specific technique that corrects

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the offending anatomic deformity or deformities. One can "pin" the ears back adequately using almost any of the standard techniques. Such a correction, however, may not result in as natural appearing ear than if one had selected a technique that corrected all the offending aberrations (Figures 1 and 2).

In 1910, Lockett¹ described a technique to correct prominent ears which is still frequently used today and forms the basis of other modifications. Essentially, it corrects the antihelical fold prominence by cartilage incision/excision, with reapproximation. The ensuing problems tend to be associated with the anterior sharp cartilage edges which are not natural in appearance and can even erode through the anterior thin skin causing crusting and skin breakdown. In 1963, Mustarde² attempted to overcome these shortcomings by using buried mattress sutures to create or accentuate the antihelical fold. This technique did improve the appearance of the postoperative ear, but there is a high rate of partial recurrence of the deformity and suture splitting.

In 1973, Stenstrom³ described a technique by which the surface of the ear was degloved and a rasp then used to score the cartilage to produce the desired amount of curvature so as to create an antihelical fold. In 1970, Nachlas⁴ had described a modification of this technique requiring much less skin undermining. With both techniques, the most common catastrophic problems tend to be hematoma and skin slough from the extensive skin undermining and the bleeding from the cartilage scoring.

Conchal modifications for otoplasty is older than antihelical fold alteration, but less commonly performed today. In fact, the original modern otoplasty was probably that performed by Ely⁵ in 1881 who altered the anatomy of the conchal

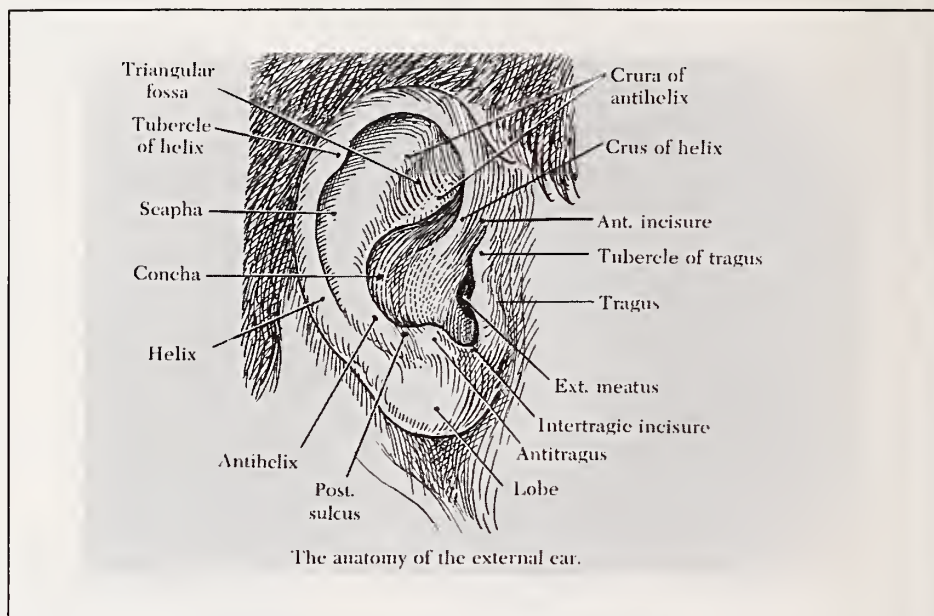


Figure 1 — The anatomy of the external ear (as labeled).

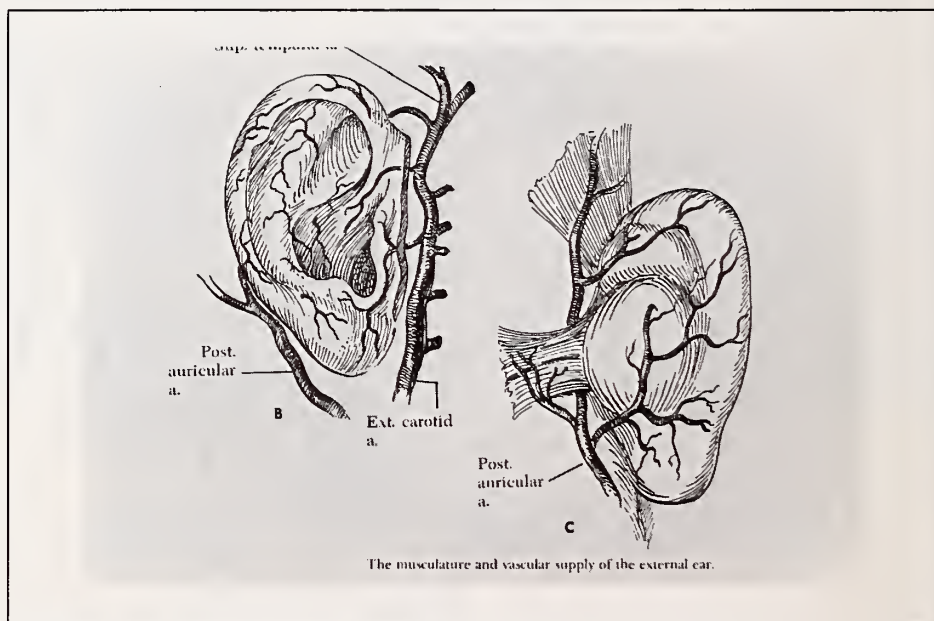
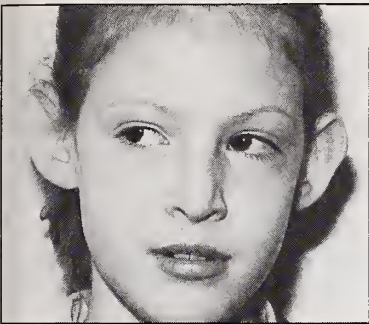


Figure 2 — The musculature and vascular supply of the external ear.

cartilage by excising the conchal wall. Today, conchal wall modification can be approached by anterior or posterior incisions. Limiting factors include excess skin wrinkling and the helical root crossing the concha. Recently, Furnas⁶ and Spira⁷ have recommended altering the concha via concha/mastoid sutures repositioning rather than excision.

In contrast to the correction of the antihelical fold or the concha modification, the alternation of the cauda helicus has been utilized as an adjunct to some of the other surgical techniques. These alternations vary from complete excision to suture reposition to modifying the lower pole of the external ear.



Figures 3A-B — (Top) Preoperative otoplasty frontal view; (Right) postoperative otoplasty frontal view.



Figure 4 — Classic microtia.

Otoplastic procedures are usually performed between 5-6 years of age prior to entering the first grade or anytime afterward regardless of the technique used. Most are performed as outpatient procedures either under general anesthesia in younger children or with the choice of local anesthesia in older children or adults. A head bandage is worn one week followed by a head band at night for one month.

Although otoplasty has been considered an unnecessary cosmetic procedure by some, this has not been the experience of the author. Growing up is difficult enough in these times without having people staring at one's "dumbo" ears (Figures 3A-B). In modern times we value appearance greatly — we have yet to see a successful public official, actor or actress, or television personality (except perhaps a comedian) who had prominent ears. The author has repaired many who have contemplated such a career, as well as many children whose psychologic need for peer acceptance is far greater than career advancement.

Microtia

Microtia is derived from Greek and means "little ear." It is a con-

genital deformity of the ear(s) where in the middle ear and the external ear do not fully develop. This almost always results in a severe hearing loss and an external ear deficit with some rudiments remaining of extreme variations ranging from total lack of tissue (anotia) to the more common presence of a significant vestigial remnant (Figure 4).

Microtia represents an arrest of embryonic development occurring at about 6-10 weeks gestation. It occurs in approximately 1:7500 births and is more common in boys by 2.5 to 1. On average, the genetic transmission is 4%, or 1 in 25 births. There appears to be an association with hemifacial microsomia of approximately 50%, although the major facial and jaw deformities comprise a small portion of this percentage.

There are too many syndromes associated with microtia to list in this article. Fortunately most are rare. The most common ones include hemifacial microsomia and OAV (oculo-auriculo-vertebral dysplasia), which included Goldenhar's Syndrome. In the author's experience, the theoretic correlation between microtia and renal deformities has not materialized.

Abnormalities of the middle ear

vary greatly as to types of deformities of the ossicular chain and the external auditory meatus as well as position of the facial nerve, but are consistent in that the hearing loss is largely conductive. Usually mild cochlear abnormalities are found by CT, and the sensorineural component is usually functional. Middle ear exploration is always begun after completing the external ear reconstruction. In bilateral microtia, bone conduction hearing aids are utilized until the middle ear reconstruction. With unilateral microtia the decision regarding middle ear exploration is made only after a thorough evaluation of the hearing and mastoid pneumatization, the needs and desires of the patient, and a review of the expected risks and benefits. Middle ear and external ear reconstruction should be planned jointly between the otologist and the plastic surgeon in order to facilitate an optimal outcome.

Congenital external ear reconstruction is usually started about 5 to 6 years of age — just before the child starts the first grade. This is the optimal age for several reasons: (1) from infancy to 5 years old the facial nerve's position shifts from a susceptible lateral-superior position to a safer inferior and deep position; (2) the rib cartilage by this





STAGE 1 <i>Rib Graft</i> 	Hospital stay —two to three days. Return visit —seven days after surgery. Age for surgery —5-6 years old optimal but any age afterwards. Head bandages for ten days.
STAGE 2 <i>Earlobe</i> 	Hospital stay —outpatient and discharged same day. Return visit —stitches removed after one week. When for surgery —minimum two months after first stage.
STAGE 3 <i>Elevation or Lifting</i> 	Hospital stay —admission overnight. Return visit —one week after surgery. When for surgery —at least three months after stage two completed.
STAGE 4 <i>Tragus & External Canal</i> 	Hospital stay —admission overnight. Return office visit —one week after surgery. When for surgery —at least three months after stage three completed.

Figure 5 — Chart for external ear construction.

age has grown enough to allow adequate working material for ear reconstruction; (3) the rib cartilage has not begun the ossification process and therefore is optimal for carving; (4) in the unilateral microtia the normal ear is sufficiently grown to allow it to be used as the model for the constructed ear; (5) psychologically, the child has not yet been exposed to the trauma of ridicule and embarrassment.

History and experience has repeatedly demonstrated the advantages of autogenous cartilage

frameworks over silastic framework implants. Silastic implants uniformly exhibit a higher extrusion rate from subsequent or concomitant infection and scarring. An artificial glue-on or snap-on ear is usually unacceptable to children because of the problems of detachment, lack of sensation of the ear, and their artificial "look" as they do not blush or suntan.

The classic total ear reconstruction is performed in four stages spaced 2 to 3 months apart to allow

for healing (Figure 5). Most patients do not experience significant ear discomfort with any of the stages. Blood transfusions are not required, as the total blood loss of the four procedures is 60-80 mls. Sports participation is limited for 4½-5 weeks in children. Normal activity is thereafter encouraged including football, baseball, and soccer.

Stage one — the rib graft framework — is itself a three-part procedure. First, a pattern of the normal ear is used to excise precisely the shape and quality of rib cartilage with the correct bend needed (Figure 6). At the same time, preservation of the perichondrium at the time of removal of the rib as well as during the actual carving of the detailed framework is paramount for optimum graft survival and preservation of shape. The rib pieces are then fashioned into a framework to match in size and shape the pattern made from the opposite ear. Even with extreme caution, as there are no second chances, the framework carving can be fabricated in one to one-half hours with practice. (The author did 200 carvings before his first patient's surgery). The third phase is to remove the vestigial remnant, make an adequate pocket under the skin, and place the framework in the optimal position on the side of the head so that it is symmetrical to the other ear.

The second stage — earlobe transposition — is performed not less than 2 months later to allow the edema to subside. This stage can be quite variable in detail because of the immense variation of the vestigial remnant. Essentially, the optimal portion of the remnant is transposed posteriorly and attached to the inferior aspect of the framework so as to construct an earlobe. Then the remaining vestigial remnant is excised.

The third stage — framework elevation — constitutes a three dimensionalization of the constructed ear

by separating the ear from the skull and creating a retroauricular space. Eyeglasses can thus be worn in the normal position, and one can better appreciate the details of the framework, particularly the helix, after the procedure. The retroauricular space is lined with a skin graft. One can minimize the exposed scar and skin graft by scalp flap advancement retroauricularly.

The fourth stage — tragus and external auditory meatus construction — is a consideration after one has consulted with the family and the otologist as to the plans for middle ear construction. It is a two-for-one procedure. In order to improve the symmetry of the two ears, a composite graft is taken from the concha of the normal ear and used to construct the tragus of the microtic ear. This donor site is tailored so as to balance the appearance of the ear projection from the mastoid on both sides. The insertion of the composite graft thus creates a pseudo ear canal that, although shallow in depth, casts a realistic external ear canal shadow mimicking the contralateral ear canal.

At a minimum, there are 2 to 3 months spaced between the four stages in order to decrease the complication rate by maximizing the blood flow as well as insuring the aesthetic planning in order to minimize the effects of the scar and edema. These timetables, of course, have to be individualized, and the surgery postponed should delayed wound maturation/edema warrant it.

The limiting factor in many cases of congenital ear deformities and particularly microtia is the quantity and quality of the periauricular skin. With good, elastic, non-scarred skin there is a likelihood of the creation of a highly acceptable ear that is a close facsimile of the real thing (Figures 7A-B). In contrast, a scarred ear always results in a compromised ear.

Ear construction for microtia has

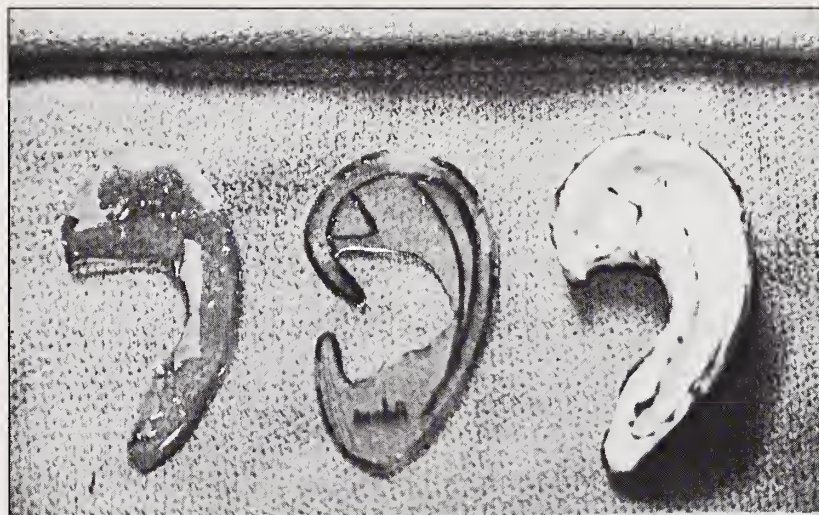


Figure 6 — Pattern of normal ear alongside completed rib cartilage graft for size and contour comparison prior to insertion.



Figures 7A-B — (Left) Preoperative microtia of left ear, side view; (Right) after three stages total ear construction of left ear, side view.

been greatly improved in the last 15 years. From an era in which the results were not considered worth the complication rate, one should now expect a carefree, all natural appearing ear with a complication rate less than 1 percent in qualified hands.

Correction of Traumatic Ear Deformities

Initial treatment of traumatic deformities has to be individualized for each patient. Frequently, the ini-

tial treatment option is between re-attaching the avulsed part or storing it, and then how to store it without compromising the reconstructive effort.

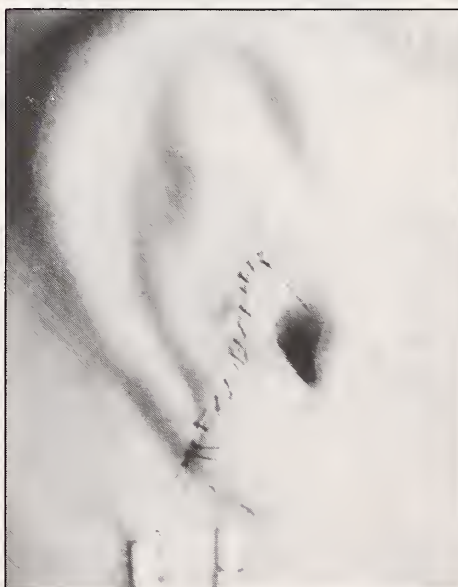
Simple reimplantation is almost always doomed to failure unless one can replant the ear microvasculature with at least one artery and one vein anastomosed. These vessels are very difficult to identify, and hence it was not until 1980 that Pennington et al⁸ first reported the successful replantation of totally

avulsed ears using microvascularization.

More prosaic methods have been successfully used for large fragments of severed ears. Mladick's⁹ recommendation is a version of the pocket principle in which the severed ear is first dermabraded and then reattached to the ear stump and inserted into a subcutaneous pocket under the post-auricular skin and scalp. Ten to 14 days later, the ear is removed from the pocket. It then reepithelizes spontaneously. Baudet¹⁰ proposed sacrificing the posterior ear skin, reattaching the severed ear to the ear stump after fenestrating the cartilage and, later after the take of the severed ear is secure, elevating the ear and placing a skin graft retroauricularly.

The biggest problem with either version of the pocket principle is the sequellae. Complications of healing, which frequently occur, scar the post-auricular skin, making further reconstructive efforts difficult. Therefore, one has to balance the chances of success against fruitless efforts. Considerations should include the length of time from the injury to proposed reattachment, ambient temperature of the avulsed piece, the age of the patient, and the condition of the severed fragment and the recipient bed.

In the vast majority of ear traumas, minimal debridement in conjunction with maximum irrigation and primary closure of the skin and cartilage with 6-0 monofilament nylon and 5-0 absorbable suture results in the most optimum outcome. Any piece of ear remaining



Figures 8A-C — (Top) Traumatic subtotal loss of right ear; (Middle) Rib cartilage graft for reconstruction (intraoperative photo); (Bottom Left) Immediate postoperative rib cartilage graft insertion; (Bottom Right) Three months after Stage I rib cartilage graft in subtotal traumatic ear loss reconstruction.

The limiting factor in many cases of congenital ear deformities and particularly microtia is the quantity and quality of the periauricular skin.

attached should be preserved and observed closely. Any detached pieces have little chance of successful reattachment unless the conditions are optimal; that is, the piece is smaller than 3 cm, reattachment is begun within 2 hours, and the receptor bed is undamaged.

In cases where segments of cartilage have lost structural support, cartilage grafts can be obtained from several sources (large segments from rib cartilage for total ear reconstruction), but in most traumatic partial ear losses from conchal cartilage from the other ear or from the same ear (Figures 8A-D).

The temporoparietal fascial flap bases on the superficial temporal artery is the method reserved from severely scarred microtia or traumatic cases. The scarred tissue is excised and the flap carefully elevated and turned down to cover a rib cartilage framework. External skin coverage is then provided by a skin graft. The edema can take months to resolve.

Smaller Defects

Brent¹¹ has categorized the smaller defects into four categories: helical rim defects, upper one-

third, middle third, and lower third defects.

Helical Rim Defects

These defects can be repaired by one of three basic methods. Antia and Buch¹² described a method by which both ends of the helix are advanced. Argamaso and Lewin¹³ presented a modification of this technique for larger helical rim defects up to 3 cm. The second technique is used with the post-auricular mastoid flap with or without a cartilage graft. One also needs to consider use of the distal tubed flap in selected cases.

Upper Third Defects

There are five methods worth considering: helical advancement; use of a pre-auricular flap; Crikelair's banner flap which is a post-auricular flap based anteriorly superior;¹⁴ use of a post-auricular mastoid flap with cartilage graft; and Davis flap, or rotation of an anteriorly attached conchal cutaneous composite flap.¹⁵

Middle Third Defects

These can be corrected as follows: helical advancement; wedge resection with accessory triangles; a composite graft preserving a cartilage strut within the chondrocutaneous graft for structural integrity; and cartilage graft by an adjacent skin flap usually from the post-auricular mastoid skin.

Lower Third Defects

These can be difficult to repair. One is almost always required to integrate a cartilage structural component into the reconstruction. Contralateral conchal cartilage is most common for smaller defects

and rib cartilage for larger lower defects. Either needs to be attached to the remaining ear. Usually the cartilage graft is placed into position during the first procedure and "elevated" with a post-auricular skin graft in a second procedure.

Summary

Both traumatic and congenital ear deformities are immensely variable in their presentation and in the surgical problems that they present. However, many of the surgical techniques and principles are applicable to both.

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Scar Revision and Dermabrasion

Jimmy L. Dixon, M.D., F.A.C.S.

OUR MOST FUNDAMENTAL defense against the external environment is the maintenance and repair of our integumentary barrier and structural tissues after wounding. During evolution we have largely lost the ability to regenerate compound tissues and, instead, heal most wounds by the generation of scar. Wound healing by scar formation is an evolutionary endpoint (or blind alley), the end results of which are not always the most desirable solution to the problem caused by wounding. Patients with pulmonary fibrosis and rheumatic heart disease ultimately die as a result of "misdirected" attempts at wound healing by scar formation. More often, the undesirable consequences of wound healing can be divided into *functional* and *aesthetic* problems. Any attempt at scar revision must be preceded by a thorough understanding of wound healing.

Historic Perspective

Historically, the entire body of lit-

During the Middle Ages, infection was so prevalent that it was felt to be a prerequisite to wound healing, and "laudable pus" from infected wounds was added to new wounds to shorten the overall process.

erature makes remarkably little reference to a biologic process that is so elementary to our existence. There is biblical reference to the malady called lathyrism, a weakening of the tensile strength of all newly formed collagen after the animal has consumed sweet peas containing beta-aminopropionitrile which interferes with the matu-

ration of collagen. During the Middle Ages, wounds were immersed in boiling oil for hemostasis. Infection was so prevalent that it was felt to be a prerequisite to wound healing, and "laudable pus" from infected wounds was added to new wounds to shorten the overall process. Sir James Lind's classic experiment in 1747 aboard *HMS Salisbury* with a scurvy laden crew compared all popular remedies of the day to the results of the ingestion of two oranges and one lemon each day. "The consequence was that the most visible good effects were perceived from the use of oranges and lemons; one of those who had taken them being at the end of six days fit for duty. . . ." Lind had unknowingly discovered that ascorbic acid (vitamin C) is necessary for the hydroxylation of proline to hydroxyproline which is necessary for polymerization and cross linkages in the collagen molecule. During the Napoleonic wars, the great military surgeon, Ambrose Paré, noted that the wounds healed better if

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carefully cleaned and dressed, and boiling oil and "laudable pus" were omitted. As late as the Crimean War, soldiers with abdominal wounds were not submitted to operation, since their outcomes were invariably fatal due to infection.

The next step forward in wound healing was the discovery of pathogenic bacteria and the appreciation of sepsis in trauma and aseptic technique in surgery with the teachings of Simmelweiss, Lister, etc. The few observations made in the surgical literature during the first half of this century were largely anecdotal. In the 1960s, Cohen began the first accurate characterizations of the phases of wound healing. In 1970, Peacock and Van Winkle published the first edition of their book *Surgery and Biology of Wound Repair*. The first giant breakthrough occurred in the early 1970s with the description of the contractile nature of the myofibroblast by Gabiani. Since that time, there has been a massive amount of investigation and discovery in the area of wound healing.

Current Information

Our current understanding divides wound healing into epidermal, endodermal, and mesenchymal healing. We have retained some regenerative capacity in epidermal and endodermal healing; however, these processes are poorly understood by most physicians (e.g., Silvadine inhibits epithelial migration, and many partial thickness burns are converted to full thickness by its inappropriate application). Skin loss or injuries above the epidermal basement membrane heal without scar formation. Epidermal healing is a combination of *proliferation* of epidermal cells in number and *migration* toward the central part of the wound. These occur under the influence of many factors including wound hormones, and they exhibit contact inhibition or the decelera-

tion and cessation of proliferation and migration once the wound is covered by epithelium.

Injuries deep to the basement layer but not through the dermis are healed by a similar process but the rete apparatus is lost, and the regenerated skin loses much of its resiliency and durability. Skin wounds deeper than the dermis are healed by mesenchymal scar covered by a tenuous thin epidermis.

Although our workers' compensation law denies it, scars suffer from the disability of being less durable than normal skin and less able to withstand the rigors and wear and tear of everyday living.

Mesenchymal healing is accomplished by the production of scar tissue and is responsible for most undesirable effects of wound healing. Mesenchymal healing has been divided into four basic phases:

- 1) *Hemostatic*: This is the acute phase occurring within a few minutes with platelet aggregation and clot formation, building a scaffold within the wound space to facilitate the movement of the inflammatory cells.
- 2) *Inflammatory*: Debridement of foreign and nonvital material and infection control are characteristic of this phase. There is an influx of granulocytes, neutrophils, lymphocytes, and macrophages over 48 hours. Macrophages help with ingestion of foreign material and elaborate a chemical factor which stimulates angiogenesis and the pro-

duction and dedifferentiation of fibroblasts.

- 3) *Proliferative*: This phase usually occurs over one to two weeks. There is deposition of ground substance which appears to influence the deposition of collagen which follows. Fibroblasts dedifferentiate to a more primitive state, elaborate protocollagen, and become contractile cells which, under the influence of wound hormones or chalone, attempt to minimize any dermal defect by contraction of the wound edges.
- 4) *Remodeling*: This phase occurs over months and years and is characterized by both collagen lysis and resynthesis. Collagen fibrils that are not aligned with the lines of maximal skin tension are more likely to be lysed, and resynthesis is most likely to occur in alignment with those lines, with a net result of remodeling or realignment of the fibrils and polymerization and crosslinkage of the fibers. Other changes include a reduction in the amount of scar collagen and reduction in scar vascularity with a net result of softening and fading of the bright red appearance of the healing wound.

Problem Scars and Their Solutions

Scars with undesirable features arise primarily from the following problems:

- 1) *Scar underproduction*
This results in scars that are atrophic and sunken below the surface of the surrounding tissues and may cause problems with function or durability. This kind of scar generally responds best to excisional revision with local tissue advancement or with geometric rearrangement of the scar relative to the normal lines of the skin.

2) *Scar overproduction*

This includes hypertrophic and raised scars which are sensitive, not durable, and subject to unusual trauma in the normal wear and tear of tissue function. Hypertrophic scars are often confused with keloid scars, which is a very different problem. Both of these scars are amenable to scar revision and, in some cases, may be amenable to treatment by the application of pressure and, less frequently, to the cautious administration of intralesional triamcinolone.

3) *Scar location and direction*

These problems arise in scars that are not in the normal lines of the skin and cause abnormal contours and cast abnormal shadows under overhead light. A classic example is a chicken pox scar or sunken acne scar, which casts an unusual shadow. These scars may be amenable to treatment by excision or dermabrasion, which serves primarily to smooth out an abnormal contour. Less frequently, synthetic tissue augmentation may be indicated, as with injectable polysaccharide-autologous fibrin products. Bovine collagen has enjoyed a brief popularity; however, it has not proven to be a lasting solution to this problem.

4) *Problems with wound/scar contraction*

These scars might result in limitation of the range of motions of joints, or limitation of the range

Mesenchymal healing is accomplished by the production of scar tissue and is responsible for most undesirable effects of wound healing.

of motion of eyelids, lips, or other moving tissues. A classic example of a contractual scar deformity is a trapdoor deformity. This problem lends itself to correction by rearrangement of the geometry of the skin/scar interface by z-plasty, w-plasty, v to y-plasty, and so forth. Sometimes, interpositional skin grafts are required to release the wound contraction, especially when it interferes with the range of motion of a joint such as the elbow or a finger.

5) *Burn scars*

Problems arising from burn scars result from a combination of many of the features above and generally warrant a separate designation because of the extent of the scar and the multiplicity of symptoms. The most general treatment for burn scars is pressure. Burn scars exhibit a remarkable response to generalized pressure, as with custom-built pressure garments. Recent research has indicated some considerable improvement with

the use of occlusive topical dressings, such as silicone sheeting.

6) *The one wound process*

All tissues that are injured or even located nearby a wound participate in mesenchymal healing with a common scar mass. This may result in scar seizure of tendon or other moving or gliding tissue and result in a limitation of range of motion or limitation of normal hand function. These scars not only require surgical intervention but also careful planning and careful followup, with splinting and early motion and exercise regimens.

7) *Durability of scar*

Although our workers' compensation law denies it, scars suffer from the disability of being less durable than normal skin and less able to withstand the rigors and wear and tear of everyday living. For example, the trauma of ultraviolet light injury may result in changes, including skin cancers, that are due to repeated ultraviolet light exposure.

In summary, the end point of our reaction to wounding is a complex summation of these processes. This end point, or scar, may have undesirable features, and any attempt at surgical revision must be based on a thorough understanding of wound healing.

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Breast Reconstruction Following Mastectomy: An Update

L. Franklyn Elliott, M.D., Philip H. Beegle, Jr., M.D., Carl R. Hartrampf, Jr., M.D.,
G. Kristin Bennett, M.D.

THE INCREASING incidence of breast cancer in American women is a disturbing statistic in a country that prides itself on medical advancement. While we continue to strive to identify the underlying causes of breast cancer and the reason for this increase, we must continue to care for our patients who present with this disease. Our last report to this *Journal* was published in May of 1987.¹ This article is an up-date of our experience regarding a number of issues and options in the field of breast reconstruction after mastectomy.

In the 1990s, the surgical treatment for breast cancer is, in general, either lumpectomy or mastectomy. The fear of mastectomy can be lessened with the prospect of breast reconstruction which is safe, soft, natural, and trouble free over a lifetime. Once questionable, breast reconstruction has now achieved such a level of reproducibility and safety that it should be widely offered to those patients considering mastectomy. Several reasonable re-

Reconstruction with an implant-expander is best suited to women who do not have the motivation or time for reconstruction with autologous tissue.

constructive options exist for almost every patient, and these should be offered with due consideration for each individual's needs and desires.

Timing of the Reconstruction

There is no ideal time interval between mastectomy and reconstruction that can apply to every patient. Some factors that influence the timing of reconstruction include the

stage of the disease, the desires of the patient, and the judgment of the surgeon. The timing of reconstruction is basically divided into two categories, *immediate* and *delayed*. Immediate reconstruction refers to breast reconstruction during the same operative procedure as the mastectomy. A delayed reconstruction is that procedure which is performed after the healing of the mastectomy wound.

The advantage of immediate reconstruction is that the reconstructive procedure is performed in a single operation and during the same hospitalization as the mastectomy. Immediate reconstruction can be applied to practically any patient with Stage I disease who desires it. In some cases, however, the patient's emotional status can be the deciding factor in determining whether immediate or delayed reconstruction is the best choice. In the more advanced stages of the disease, Stages II and III, immediate reconstruction can still be performed, since evidence has shown

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that reconstruction does not prolong healing time or delay or postpone initiation of chemotherapy or radiation.² Furthermore, several studies have indicated that patients who have had immediate breast reconstruction experience less anxiety and depression related to their mastectomy.^{3,4}

Some women may select delayed reconstruction because they are not prepared to make a decision at the time of mastectomy, they are not fully informed of all options available at the time of mastectomy, or there is inadequate time prior to their operative date for proper preparation, i.e. autogenous blood donation. Delayed reconstruction can be readily performed during the same hospitalization as the mastectomy or even up to years following the mastectomy. However, most delayed reconstructions are performed soon after the mastectomy wound is healed or after the completion of chemotherapy if this is indicated.

Whether the patient chooses immediate or delayed breast reconstruction, it is imperative for the plastic surgeon to complete the reconstruction as expeditiously as possible, so that the patient can continue with her life and not be burdened with the old problems which were formerly associated with some breast reconstructions.

**Reconstruction with
Autogenous Tissue: TRAM**

The transverse abdominal island flap (TRAM) is now well established as a realistic means of transferring tissue from the lower abdomen to the anterior chest wall for breast reconstruction.⁵⁻⁷ Skin and fat are taken from the lower abdomen in a transverse dimension, and the donor site is closed primarily with a resulting low transverse abdominal scar (Figure 1-A). The tissue can be transferred on a long muscular pedicle based superiorly (Figure 1-B) or as a "free flap" in

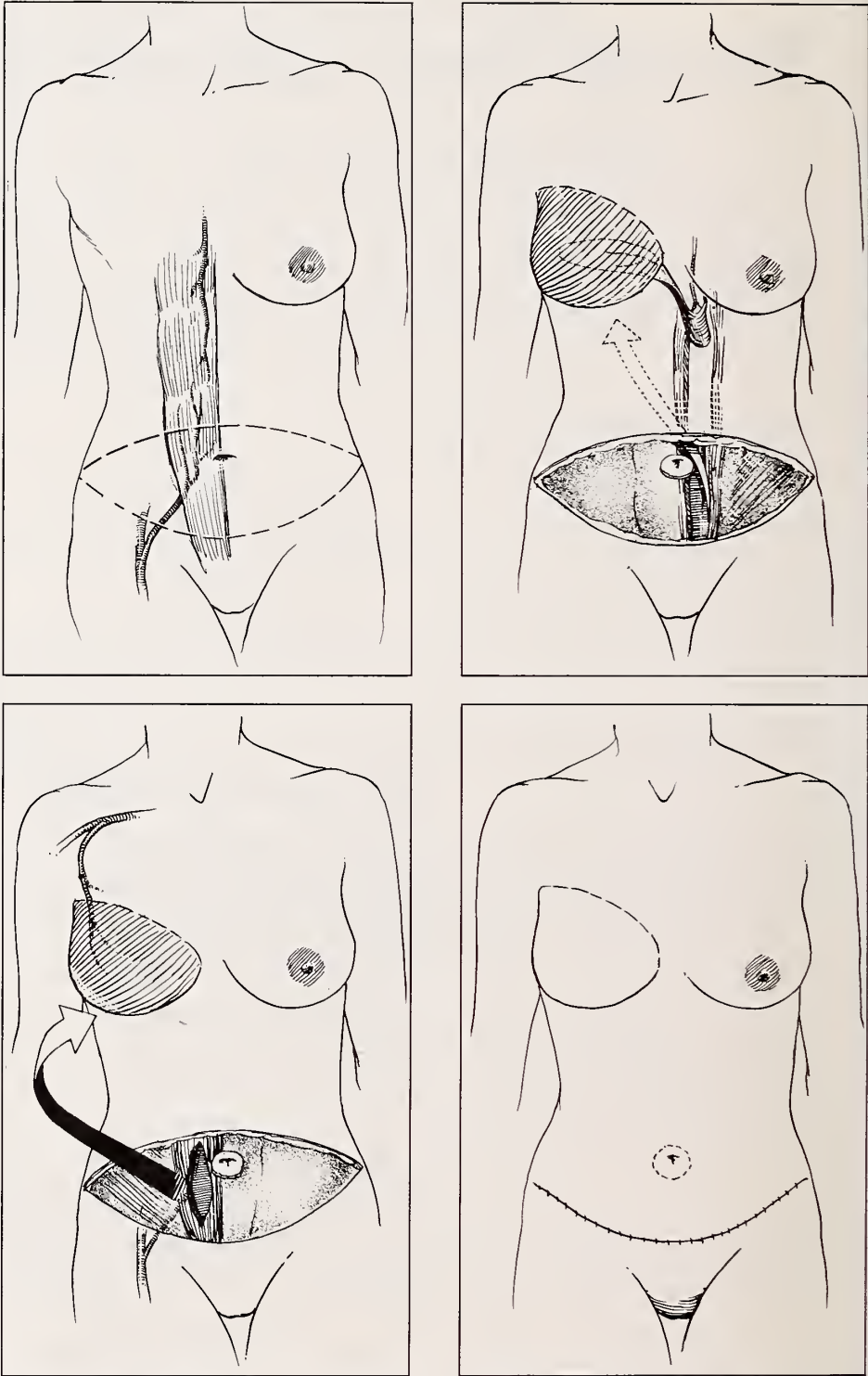


Figure 1 — The schematic representation of TRAM procedure. (Top Left) Abdominal ellipse with superior and inferior blood supply. (Top Right) Conventional pedicled TRAM flap. Arrow denotes tunneling. (Bottom Left) Microsurgical 'free' TRAM flap. Note limited muscle defect. Arrow denotes complete detachment and reattachment of TRAM flap. (Bottom Right) Postoperative result.

which the tissue is completely detached from the abdomen and re- attached to the chest with the blood supply reconnected to the

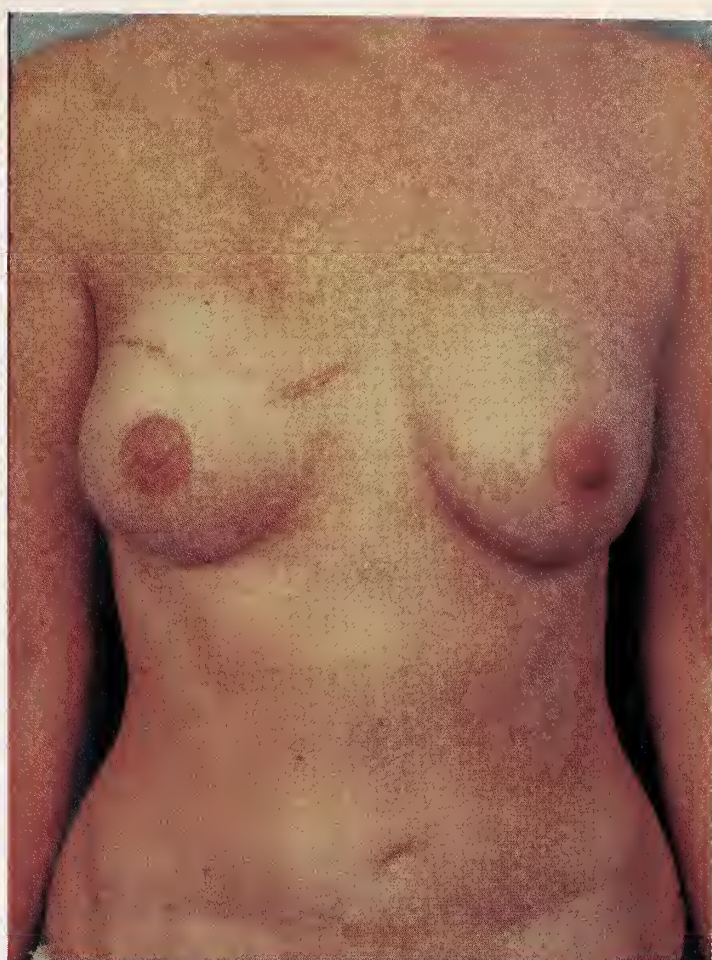
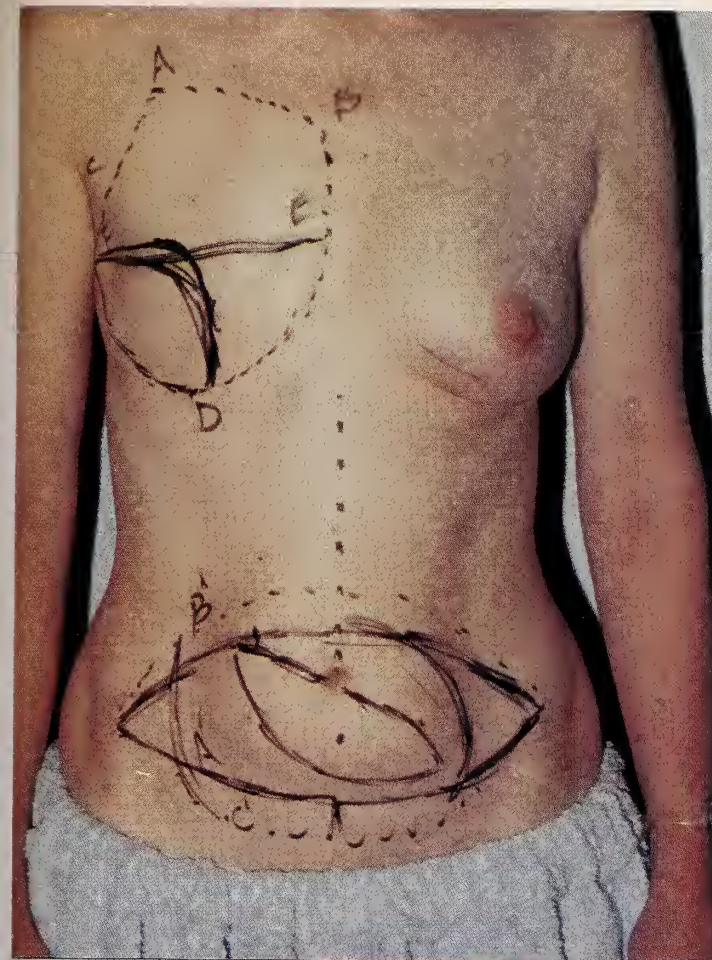


Figure 2 (Top) — 42-year-old woman with right modified radical mastectomy. (Left) Preoperative markings for double pedicle TRAM procedure. (Right) Two years postoperative after nipple/areola reconstruction and tattooing.
 Figure 3 (Bottom) — 37-year-old woman with intraductal carcinoma of the right breast for mastectomy with skin sparing incisions and immediate reconstruction with a TRAM flap. (Left) Preoperative view with right breast biopsy site. (Right) 1 1/2 years postoperative immediate right breast reconstruction and secondary nipple areolar reconstruction.

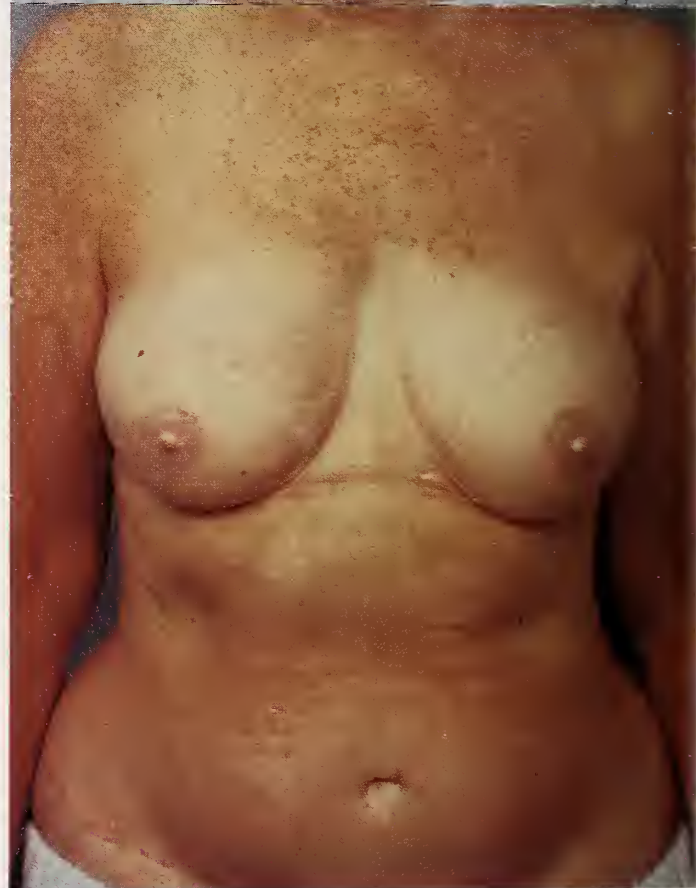


Figure 4 — 57-year-old woman with bilateral infiltrating ductal carcinoma and bilateral modified radical mastectomies. (This patient was shown in the 1987 MAG Journal.) (Top Left) Operative plan for bilateral TRAM flap reconstruction. (Top Right) Early postop view of bilateral autogenous tissue reconstruction with TRAM flaps before nipple areolar reconstruction. (Bottom) Five-year postoperative view.

blood vessels in the axilla⁸ (Figure 1-C). The pedicle technique involves transferring tissue from the abdomen to the chest via an epigastric tunnel. In either technique, the abdominal tissue is shaped on the chest wall to simulate an ideal breast or the breast on the opposite side.

Unique Benefits

1. A silicone implant is not required, therefore the breast remains naturally soft over the patient's lifetime.
2. In over half of the patients, the shape and size of the new breast can be adjusted to produce a natural ptosis that matches the opposite breast (Figures 2A-B).
3. This method of reconstruction is successful in a number of problem cases that are difficult to manage by other techniques, such as radical mastectomy, the irradiated breast, and correcting previous unsatisfactory reconstructions.

Indications for TRAM

1. Salvage procedures of the breast and chest wall.

Extensive bony and soft tissue defects of the chest wall resulting from radical procedures for breast cancer can be constructed with the TRAM flap, often with spectacular results. Frequently these extensive chest wall problems are accompanied by heavy radiation damage and even frank skin ulceration in some patients. These patients have no other reconstructive options available to them either because the latissimus dorsi muscle is denervated or because other procedures have failed to correct the problem. The TRAM flap can provide the necessary coverage for the most extensive defects and will introduce revascularization to the area. Many of these patients are those who have undergone a radical mastectomy, now an outdated method of treatment for breast cancer in most cases. The reconstruction of this type of defect requires

The advantage of immediate reconstruction is that the reconstructive procedure is performed in a single operation and during the same hospitalization as the mastectomy. Several studies have indicated that patients who have immediate breast reconstruction experience less anxiety and depression related to their mastectomy.

reproducing the missing anterior axillary fold, filling the infraclavicular hollow, and at the same time producing a breast that will match the opposite side. As a rule of thumb, it takes one half of the lower abdominal flap to reconstruct the infraclavicular and axillary defect and one half to reconstruct the breast. It is very important that both halves be well vascularized. Therefore, if there is any lower abdominal scarring or if for any reason the vasculature to the distant reaches of the flap is impaired, the overall blood supply should be enhanced by performing the free flap technique (Figure 1-C), by taking two vascular pedicles for the one flap (based on both rectus muscles), or by taking the flap higher on the abdomen, where the blood supply to the flap is more reliable.

2. Reconstruction of the modified radical mastectomy.

There are a number of acceptable options open to the individual who has had a modified radical mastectomy. These include tissue expansion, implants, the latissimus dorsi flap with or without implants, and the TRAM flap. Of these, the TRAM flap produces the most remarkable results. The new breast will very often match the opposite side and will have a natural shape with permanent softness. In the setting of immediate reconstruction, skin-sparing incisions can be used in performing the mastectomy. This technique may preserve most of the native breast skin, yielding a more natural post-operative result (Figures 3A-C).

3. Reconstruction of the bilateral mastectomy.

The TRAM flap is especially suited to bilateral breast reconstruction is generally done basing the flaps superiorly and passing them through the epigastric tunnel, with each pedicle carrying one half of the lower abdominal flap (Figures 4A-C). It can also be done as bilateral free flaps, though this is a

somewhat more lengthy procedure. Either way, this is a dramatic procedure but is in fact extremely safe.

4. The subcutaneous mastectomy patient with silicone intolerance.

A distressingly large number of patients have significant complications following subcutaneous mastectomy with silicone implant reconstruction. Most of these individuals have had multiple attempts to correct the problem with the same disappointing results. These women can be rehabilitated by removing the silicone implants and placing well vascularized autogenous tissue flaps from the lower abdomen into the subcutaneous pocket.

Disadvantages of TRAM

1. The reconstructive surgeon may have limited experience with this procedure.
2. The complication rate may be higher than the other myocutaneous flaps such as the latissimus flaps, even when the operation is properly performed; if improperly performed, the chance of a major complication is significant.
3. The operation is probably longer than that required for an implant-expander reconstruction in that the implant-expander operation takes 1 to 2 hours while the TRAM flap reconstruction takes 3 to 4 hours. In addition, the patient's hospitalization with the implant-expander may be overnight, while hospitalization with the TRAM flap procedure will be 4 to 5 days. If either procedure is done in the immediate setting, the differences are not as great, since patients undergoing mastectomy with or without reconstruction are in the hospital at least 2 to 3 days postoperatively anyway. Therefore, the implant-expander reconstruction would be in the hospital 2 to 3



Figure 5 — 40-year-old woman with left modified radical mastectomy for prophylactic right mastectomy and bilateral reconstruction with LTF flaps.

A. Frontal view preoperatively.

B. Frontal view of thighs preoperatively.

days after mastectomy and reconstruction, and the TRAM flap patient would be in the hospital 4 to 5 days after mastectomy and reconstruction.

Poor patient selection is the leading cause of problems with the TRAM procedure. Conditions that

adversely affect the operation and increase the risk of complications are: 1) the presence of systemic disease such as diabetes hypertension, etc.; 2) chronic and heavy smoking; 3) obesity; 4) malnutrition or extreme thinness; 5) abdominal scars that divide the critical

vascular pedicle, damage the major periumbilical perforators, or cross the flap so that adequate tissue harvest is not possible.

Other Autogenous Tissue Choices

Besides the abdomen, the lateral thigh and the buttock often have adequate amounts of tissue for use in reconstructing a new breast. The lateral transverse thigh flap (LTF) utilizes excessive (saddle-bag) tissue for transfer to the chest as a free flap, using microvascular anastomosis of its blood supply to the blood supply in the axilla/chest. The buttock, or gluteal flap, involves transfer of excess skin and fat from the buttock to the chest in a method similarly described for the thigh tissue. Either of these procedures, LTF or gluteal, can be performed unilaterally or bilaterally (Figure 5AE). While the TRAM flap remains the leading choice for autologous tissue breast reconstruction, the LTF and the gluteal options can be selected in patients who have had previous TRAM flaps or who have appropriate body fat distribution.

Reconstruction with Silicone Implant-Expander

A silicone prosthesis has proven to be an effective tool for breast reconstruction after mastectomy. The implant insertion after mastectomy is most successful after subcutaneous, simple, and modified radical mastectomies when tissue on the chest wall is supple and adequate. The tissue expander is another type of silicone device which is similar in shape to the silicone implant but can be expanded over time by percutaneous saline injections to gradually enlarge the size of the reconstructed breast. The tissue expander allows the luxury of having multiple options in breast size and avoiding undue stress on the overlying skin (Figure 6A-C).



5C. (Left) Postoperative view after bilateral LTF reconstruction.

5D. (Bottom Left) Frontal view post-operative. Note scant amount of abdominal tissue.

5E. (Bottom Right) Right lateral view showing donor site scar.





Figure 6 — 38-year-old patient with biopsy proven lobular carcinoma of left breast. (Top) Frontal view prior to bilateral mastectomy and reconstruction with tissue expanders. (Middle) Frontal view after bilateral tissue expander insertion and expansion. (Bottom) One year postoperative after bilateral expander reconstruction and bilateral nipple areolar reconstruction.

Texturing of the implant, or expander, creates a “rough” surface on the device. Use of this surface over the past several years has demonstrated several advantages: 1) a lower incidence of capsular contracture or firmness; 2) a device that will remain in the same position without shifting; 3) a device that usually obviates the need for significant overexpansion of the capsule. These advantages have led to a lower incidence of necessity in swapping out the expander for a permanent implant and decreased the number of operations needed for tissue expander breast reconstruction.

Reconstruction using implant-expanders provides a relatively simple means of breast reconstruction. The surgery can be performed on an outpatient basis when done as a delayed procedure, and the morbidity and recovery time associated with this type of reconstruction is minimal. Reconstruction with an implant-expander is best suited to women who do not have the motivation or time for reconstruction with autogenous tissue. It is also a good choice for women who have medical problems that prohibit reconstruction with autogenous tissue. Unfortunately, there are significant problems associated with this form of reconstruction in that the body can form dense scar tissue around the prosthetic implant. The texturing of implants as mentioned above, though, has helped to decrease the incidence of this problem.

Contraindications to reconstruction using an implant-expander are radical mastectomy, extremely tight chest wall skin, and an irradiated chest wall. In these cases, an implant-expander will give an inadequate restoration and an unnatural appearance, and there is a good possibility that the implant will erode the skin pocket and become exposed.

While the TRAM flap remains the leading choice for autologous tissue reconstruction, the LTTF and the gluteal options can be selected in patients who have had previous TRAM flaps or who have appropriate body fat distribution.

Reconstruction Using Latissimus Dorsi Musculocutaneous flap

The latissimus dorsi muscle with an overlying skin island can be utilized to carry additional soft tissue to the chest wall in breast reconstruction. A recent development in this flap describes the recruitment of overlying fat transferred with the latissimus dorsi muscle such that the new breast can be reconstructed without the addition of an implant. The other option is the previously described method of transferring the muscle with an overlying skin island and establishing a breast mound with an underlying implant. While the newly described method of reconstructing the breast without an implant using the latissimus dorsi flap has the advantage of avoiding an implant, it does create a more significant donor de-

fect on the back. With the advent of tissue expanders and autogenous tissue transfers, the latissimus dorsi is used less frequently. However, it still serves a useful role when augmentation of the soft tissue of the chest wall is needed, either after implant surgery or after reconstruction with autogenous tissue.

Summary

Breast reconstruction today is a realistic and vital part of total breast cancer treatment. All physicians should be well informed on current methods of reconstruction so that they can present the facts to their patients in an encouraging, yet realistic manner. Recent developments in breast reconstruction after mastectomy have included the increase utilization of immediate breast reconstruction at the time of mastectomy, the improvement and refinement of the TRAM flap, the increased use of the "free" flap transfer of the TRAM flap which increases blood supply to the flap, texturing of implants which appears to increase their stability on the chest wall and reduce the incidence of capsular contracture or firmness, and the introduction of the newer autogenous tissue methods including the LTTF, gluteal, and latissimus dorsi flaps.

Plastic surgeons are charged with the task of becoming proficient in breast reconstruction procedures in order to offer the mastectomy patient a safe, realistic facsimile breast that will be trouble

free. Fortunately, there are several good options for restoring the breast after mastectomy. The method of reconstruction should be chosen by matching the desires of informed patients with the indications and contraindications in each case.

In general, silicone reconstruction is expedient and satisfactory in most patients. However, it cannot compete with autogenous tissue transfer for severe chest wall defects, covering irradiated areas, creating a large, ptotic breast, or providing a natural appearing, soft breast mound.

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Breast Augmentation: A Current Controversy

Kenna S. Given, M.D., Robert G. Stowers, P.A.-C.

Introduction

BREAST AUGMENTATION mammoplasty has proven to be a popular and gratifying operation for women. It is estimated that over 2 million women in the United States have elected to undergo breast enlargement.¹ Nearly 100,000 women undergo breast augmentation each year. Since 1981, augmentation mammoplasty has become the second most popular cosmetic procedure with an increase of 24%.²

Candidates for breast augmentation should have congenitally small breasts with an intrinsic desire to have larger breasts. Some women perceive themselves as less attractive because of their small breasts and seek this surgery as a means of overcoming these negative feelings. Breast augmentation gives the patient immediate self-gratification with a dramatic improvement in body image. Shipley found that women with augmented breasts rated their breasts in a more

Recently there have been some questions about the carcinogenicity of silicone and polyurethane in addition to the possible development of autoimmune disorders.

positive manner after surgery.³ Breast augmentation should only be performed on a patient who has an intrinsic motivation for having it done and not on the insistence of others. The vast majority of these women are happy, especially if there is a preoperative understanding of the risks and benefits of the

surgery. The major complication of breast augmentation is a scar (capsular) contracture around the implant. This scar can contract causing moderate discomfort and hardness of the breast.

All breast implants are made of silicone. Silicone has generally been thought to be biologically and chemically inert. Recently there have been some questions about the carcinogenicity of silicone and polyurethane in addition to the possible development of autoimmune disorders. Many physicians are concerned about a possible delay of detecting breast cancer by mammography in a patient that has been augmented with a silicone implant.

The Controversy

The nature of the present controversy is not whether breast augmentation is a good operation, but whether breast implants are safe. Until recently, the question of safety did not arise because silicone was considered biologically

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and chemically inert. Breast implants were "grandfathered" under the Medical Devices Act, and no biocompatibility studies were offered to the Food and Drug Administration. "Due to safety concerns about silicone gel-filled breast implants, the FDA is requiring manufacturers to provide scientific data demonstrating their safety and effectiveness."⁴ The FDA has 6 months after the submission date of July 9, 1991, to study the data and render a decision to the safety of silicone breast implants.

To understand the controversy it is important to look at the architecture of breast implants. All breast implants have two structures: the outer shell and the inner contents. Silicone is used in either one or both structures. The outer shell or envelope of silicone implants may have a smooth-wall (elastomer) or a textured, rough surface. The polyurethane implant has a textured polyurethane surface. The smooth-wall silicone-gel implant was introduced by Cronin and Gerow in 1962⁵ and is the major implant used for breast augmentation (Figure 1).

The major complication with breast augmentation is a firm scar (capsular) contracture around the implant which can be palpable and hard. The incidence is . . . as high as 50%.

The major complication with breast augmentation is a firm scar (capsular) contracture around the implant which can be palpable and hard. The incidence is variable but has been reported to be as high as 50%.⁶ There is a physiologic wall-

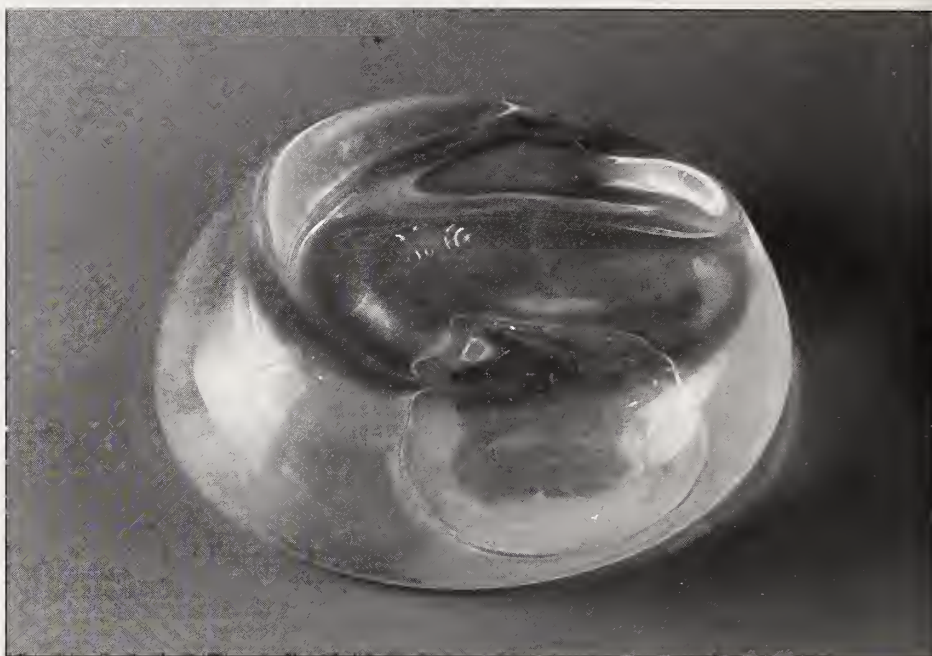


Figure 1 — A smooth-wall elastomer, silicone-gel filled implant.

ing-off of the implant with scar tissue which may or may not become firm by contracting around the implant. Theories as to the etiology of the contracture remain unclear.

Numerous attempts to alter the constricting scar include placement of the implant in a submuscular pocket (opposed to submammary placement), the use of steroids in the pocket or implant, and the use of antibiotic foam or antibacterial agents in the pocket.

Another solution to the scar contracture problem was the introduction of the polyurethane foam implant by Ashley in 1972 as an alternative to the smooth-wall silicone implant⁷ (Figure 2). Several clinical studies have shown that scar contracture can be significantly decreased by the use of polyurethane implants.^{8,9} The bioactivity (tissue reaction) of the polyurethane and the reticulated surface of the implant seem to enhance the ingrowth of the periprosthetic tissue into the implant decreasing the risk of capsular contracture. Should a capsule form, the ingrowth of the tissue into the polyurethane foam makes it dif-

ficult to remove.¹⁰ Hester has had vast clinical experience (1983-1991) with an improved polyurethane foam implant, and he states that there is a "chronic and characteristic foreign-body response."¹¹ This chronic response along with the reticulated surface of the polyurethane is probably responsible for less capsular contractures, thus softer breasts. Approximately 10% of all implants that have been used for breast augmentation or breast reconstruction have been polyurethanes.¹²

On April 17, 1991, Surgitek (a subsidiary of Bristol-Myers Squibb Company) voluntarily withdrew the polyurethane implant. The manufacturer removed this breast implant from the market because of negative publicity. The reason for concern is the possibility of the carcinogenicity of a by-product of polyurethane, 2,4 Toluene Diamine (TDA). The chemical degradation *in vitro* of TDA is questionable, since the polyurethane was subjected to drastic conditions, such as extreme pressures, high temperatures, and pH values not



Figure 2 — A polyurethane foam shell, silicone-gel filled implant.

compatible with life.¹³ Szycher performed *in vitro* tests, simulating physiologic conditions as closely as possible and reported: 1) TDA was formed for the first 4 days, reaching a maximum of 8.3 parts per million. 2) After the initial burst, no further TDA was observed within the limits of the detection of the experiment (10 parts per billion). "Based on standard risk assessment, this amount of TDA translates into a risk of developing cancer of one in four hundred million."¹⁴

A recent development in breast implants is the textured silicone shell (Figure 3). It has been hypothesized that by eliminating the unwanted bioactivity of the polyurethane and texturing the surface of a silicone breast implant, one might possibly eliminate the complication of a scar contracture, thus producing a more biocompatible breast implant. Caffee found in an experiment using New Zealand white rabbits, that roughening the surface of the silicone elastomer not only did not reduce contracture but also greatly increased it.¹⁵ A textured silicone implant will cause a

foreign-body response just like a smooth elastomer, so further clinical studies are needed.

The inner contents of a breast implant is either a silicone-gel or saline. Silicone-gel is the most common filler for breast implants. The silicone-gel is a medical-grade gel with a high viscosity. Most of the current silicone implants are referred to as "low-bleed" which means that there is a reduced escape of silicone through the envelope.

Saline implants are inflated by the surgeon at the time of the operation, and consequently the volume can be easily adjusted. The early saline implants lost favor with the public because they would deflate rather easily and reoperation would become necessary. Better silicone envelopes have now resulted in a lower deflation rate, but the early reputation of the inflatables continues to plague this implant.

Human carcinogenicity is a major concern of breast augmentation. There is no evidence that

silicone elastomers produce neoplasms in humans.¹⁶ In an epidemiologic study, Deapen concludes that breast implants do not appear to increase the risk of breast cancer nor hinder detection.¹⁷ After breast augmentation mammoplasty, the importance of self breast exams and mammograms are stressed.

Mammography is an important tool for the early detection of breast cancer. The fine calcifications associated with neoplasms of the breast are detected much earlier with mammography than with breast exam alone. Baseline mammography prior to breast augmentation is important. Periodic mammograms after augmentation are also important, even though it is more difficult to get a good study with an implant pressing on the breast tissue. It has been known for some time that compression of the breast tissue by the implant distorts the fine trabecular pattern of the breast and may obliterate small calcifications.¹⁸ Gumucio has suggested that a more radiolucent implant is needed, but finding such material is not an easy task.¹⁹

*A radiolucent implant would, of course be an ideal. The problem is to find the flawless implant material. To satisfy all needs of the perfect device, the material should have the biocompatibility and consistency of autogenous fat, the strength of stainless steel, the immunogenicity of distilled water, the teratogenicity of abstinence, the carcinogenicity of vitreous, the radiolucency of air, and as an extra accommodation, the size adjustability of erectile tissue.*²⁰

Autoimmune disorders after breast augmentation is a recent concern. There are isolated case reports in the literature suggesting a causal relationship between silicone implants and connective tissue disorders.²¹⁻²³ The term "human adjuvant disease" is the name given to a group of ill-

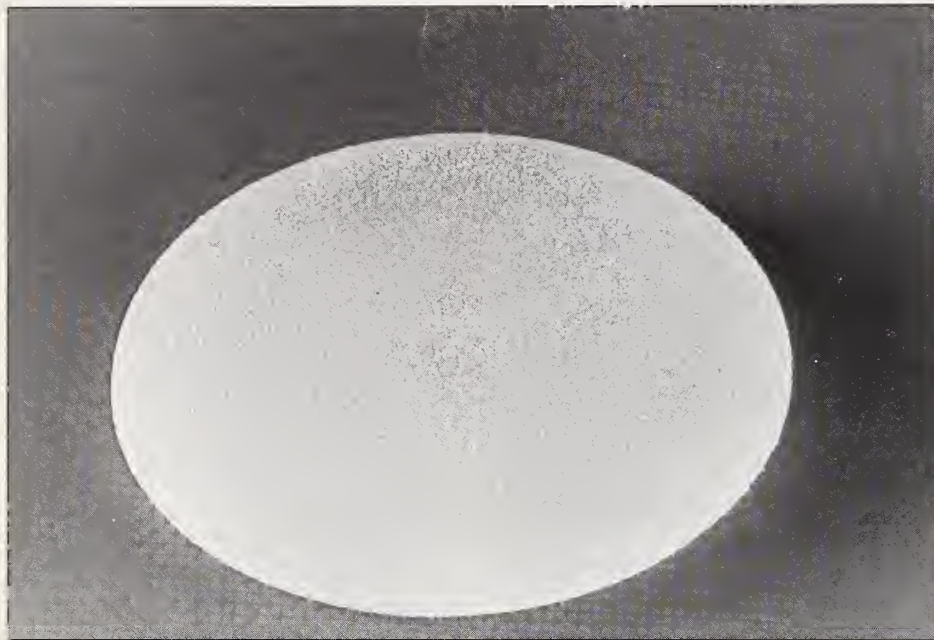


Figure 3 — A textured silicone shell, silicone-gel filled implant.

defined autoimmune disorders caused by exposure to silicone-containing materials.²⁴ Human adjuvant disease may well be an inappropriate term, since no true clinical entity has ever been defined to fit this term.²⁵ There are no landmark studies that show that the prevalence of connective tissue disorders are increased in women with augmented breasts vs. women in general. Based on the relatively small numbers of reported cases of scleroderma to date from the total numbers of women with silicone breast implants, the risk of scleroderma does not appear to be increased.²⁶

Summary

Breast augmentation remains a popular aesthetic procedure. Even with the current negative publicity, breast augmentation continues to be a widely accepted procedure. The materials that make up the breast implants have been in use for over 20 years with only minimal complications. Scar contractures continue to be the major complica-

tion with this surgery. A causal relationship between silicone breast implants, neoplasms of the breasts, or autoimmune diseases have not been demonstrated in experimental studies on humans. Scientific data presented to the FDA will determine if silicone-containing products will continue to be used for implantation. There is enough concern among some physicians and patients that many are now turning to saline implants. Some of the patients do not entertain the idea of saline implants because of the incidence of deflation and reoperation.

Silicone may not be the perfect implantable substance, but no other material has been manufactured to replace this implant in the last 20 years. Until a better material is produced, silicone is the breast implant of choice.

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Breast Reconstruction With Free Flaps

Foad Nahai, M.D., Robert J. Wood, M.D.

Introduction

SIGNIFICANT advances and refinements in breast reconstruction have been achieved over the last decades so that aesthetically acceptable soft reconstructed breasts which match the opposite side may be offered women undergoing mastectomy. A variety of techniques with varying degrees of complexity are available (Figure 1) ranging from the insertion of an implant to complex microsurgical tissue transplantation (free flap). The use of expanders and implants represents the simplest method. Next on the "Reconstructive Ladder" are the pedicled flaps, the latissimus dorsi, and transverse rectus abdominis (TRAM) musculocutaneous flaps which entail the transfer of pedicled tissue from the back or lower abdomen for breast reconstruction. Microsurgical composite tissue transplantation or free flaps, representing the most complex method of breast reconstruction, entails the transfer of distant tissue through isolation of the vascular pedicle, di-

The most important factor indetermining success or failure of a free flap is the choice of recipient vessels.

vision of the vascular pedicle in the donor site, and revascularization through microsurgical anastomosis to recipient vessels in the breast region.

The choice of reconstructive method is based on the patient, her opposite breast, the mastectomy defect, and the plastic surgeon who will select the fastest, safest method which will create an aesthetic breast matching the opposite side. The selection process starts with the first rung of the reconstructive ladder, with the surgeon only climbing to the next rung if the ob-

jectives cannot be met on the lower rungs of the ladder.

Free tissue transfer breast reconstruction offers a wider range of donor tissues. The expected results of a soft, natural feeling breast and acceptable donor defect come only with considerable surgical expertise and experience. These procedures are not for the patient desiring a rapid, simple reconstruction or for the inexperienced surgeon.

The most widely utilized free flap donor sites for breast reconstruction are the TRAM and gluteus maximus musculocutaneous flaps. They offer an acceptable donor site and substantial tissue for breast reconstruction.

Historical Aspects

Holmstrom¹ introduced the lower transverse rectus abdominis musculocutaneous (TRAM) free flap in 1979. Prior to this, the contralateral latissimus dorsi and groin flap had been employed as free flaps for breast reconstruction. Both yielded a thin flap and re-

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quired a prosthetic implant to augment the reconstruction.

Fujino² described the superior gluteus maximus myocutaneous flap. This flap, further refined by Le Quang³ to involve the inferior half of the muscle, provided another option for reconstruction with abundant autologous tissue and obviated the use of an implant. Other free flaps evolved to utilize excess lateral thigh tissue (tensor fascia lata flap)^{4,5} and upper medial thigh tissue (free gracilis musculocutaneous flap).⁶

Patient Selection

The success rate for free tissue transfer exceeds 98% overall.⁷ The surgeon performing free tissue transfers for breast reconstruction should meet or exceed these expectations. Reconstruction with implants and pedicled flaps are the standard in most institutions and yield acceptable results. Microsurgical breast reconstruction should not be undertaken without a surgical team that is proficient in free tissue transfer and performs microsurgical breast reconstruction on a regular basis.

The patient candidate for microsurgical breast reconstruction should be in at least fair general health. She should have a good prognosis and few risk factors for local recurrence. Elements affecting microcirculation such as polycythemia and smoking should be corrected. We require patients who are smokers to stop smoking 10 days prior to surgery and refrain for at least 3 weeks postoperatively.

Patients referred for microsurgical breast reconstruction often are "salvage" cases. Radionecrosis of the chest wall, brachial plexus neuropathy, failed attempts at reconstruction with local tissues are typical indications for free flaps. These patients frequently have no other reconstructive options, and operative risk factors must be interpreted in this context. Large, reliable flaps

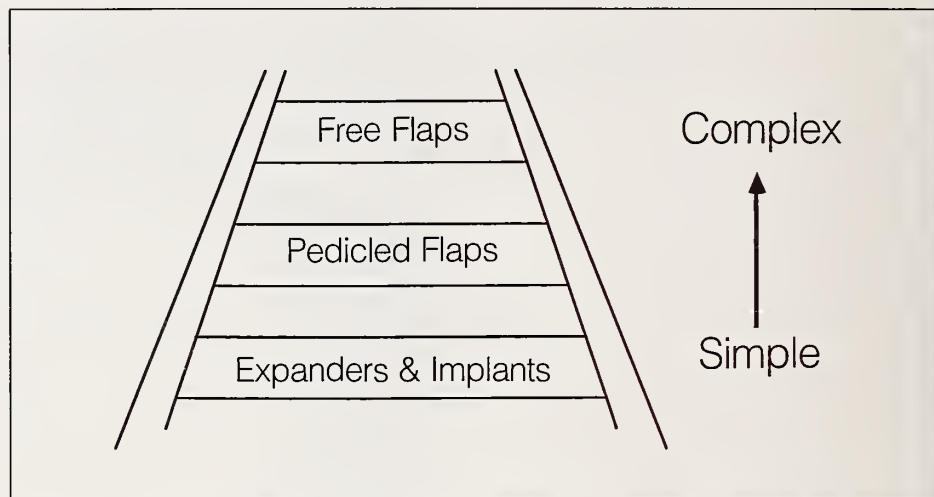


Figure 1 — Breast Reconstruction Ladder

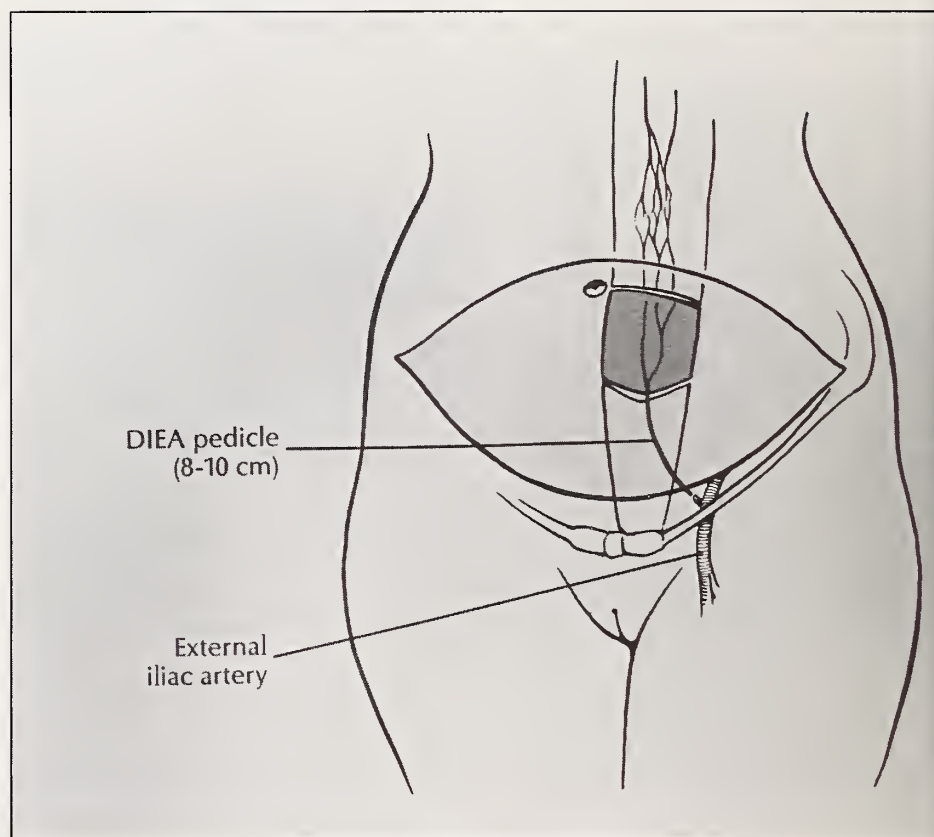


Figure 2 — Free TRAM flap based on left DIEA pedicle.

are preferred in these situations, e.g., the TRAM flap, contralateral latissimus dorsi, and omentum. A second patient population selected for microsurgical breast reconstruction are those patients in whom it is felt free tissue transfer will provide a superior result and satisfy pa-

tient preferences. Although implants and pedicled flaps would provide an acceptable reconstruction, free tissue transfer is selected for the advantages inherent in the procedure. In our experience, free TRAM or gluteus breast reconstruction results in a softer breast and

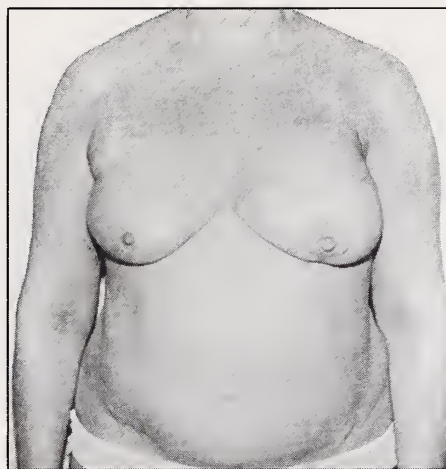
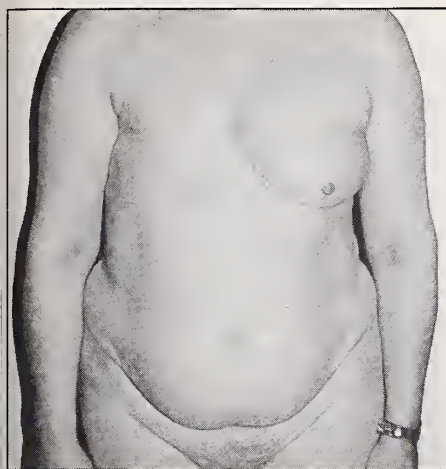


Figure 3 — (Left) A 60-year-old woman following mastectomy. (Right) Free TRAM breast reconstruction.

shorter hospitalization than superior pedicle TRAM reconstruction. Again, these free tissue transfers usually alleviate the need for implants.

Flap Anatomy and Surgical Technique

Matching a patient with an appropriate free flap for breast reconstruction depends on an understanding of anatomy and the technical demands involved in transferring each distant flap. This fund of knowledge also allows the surgeon to better educate each patient candidate for microsurgical breast reconstruction. Patient preferences as to donor site, placement of scars, and complexity of reconstruction contribute to flap selection.

TRAM Free Flap

The blood supply of the lower abdominal skin and subcutaneous tissues is based on perforating branches of the deep inferior epigastric artery (DIEA) and superficial inferior epigastric artery (SIEA). A free flap of the entire lower abdominal ellipse of skin and subcutaneous tissues can be based on either of these vessels (Figure 2). The TRAM free flap is based on the DIEA with blood flow carried through periumbilical perforators

of the rectus abdominis to the skin. The inferior epigastric pedicle typically measures 7 to 10 cm. in length with a diameter of 2 to 4 mm. The pedicle is dissected from the external iliac vessels to the point of entrance into the rectus abdominis. A small (7 × 5 cm) block of muscle is included with the flap from the lower third of the rectus abdominis. The amount of muscle taken is small and results in minimal functional disturbance. We prefer to base the free TRAM flap on the contralateral rectus muscle and DIEA with respect to the breast being reconstructed. This flap is our first choice in the patient with excess lower abdominal tissue. The resulting donor defect, an abdominoplasty, is a bonus for the patient.

The most important factor in determining success for failure of a free flap is the choice of recipient vessels. Our preference is to expose the thoracodorsal vessels and identify the collateral branch to the serratus muscle. This crossing branch is the first choice for anastomosis as it preserves the pedicle to the latissimus dorsi for theoretical use as a pedicled flap. If the crossing branch is scarred from prior dissection or otherwise unsuitable, exploration proceeds proximally along the thoracodorsal vessels to the circumflex scapular and subscapular

vessels. If none of these segments are available, an anastomosis may be performed end-to-side to the axillary vessels. The axillary and subscapular system are the preferred recipient vessels; however, the internal mammary artery has been utilized, but requires resection of costochondral cartilage for exposure. The vena comitans of the internal mammary artery is often not of adequate caliber, and a vein graft or downturn of the external jugular vein may be required.

Before flap transfer, the microscope is brought into the field and used for final evaluation of the vessels. The deep epigastric artery and vein are then divided, the vessels are irrigated with heparinized saline, and the flap is transferred to the chest wall where it is temporarily secured. The flap is positioned for an optimal aesthetic result. If in this position pedicle length is inadequate, vein grafts may be required. This is rarely necessary in our experience with TRAM flaps, but more commonly required with gluteal flaps.

The TRAM flap has emerged as the standard for free flap breast reconstruction with its abundant tissue and long pedicle length.

The anastomosis is usually performed end-to-end with the circumflex scapular, subscapular, or thoracodorsal vessels and end-to-side if using the axillary vessels. For any significant discrepancy in size between recipient and flap vessels, an end-to-side anastomosis is performed. Prolene sutures of 9.0 or 10.0 are used.

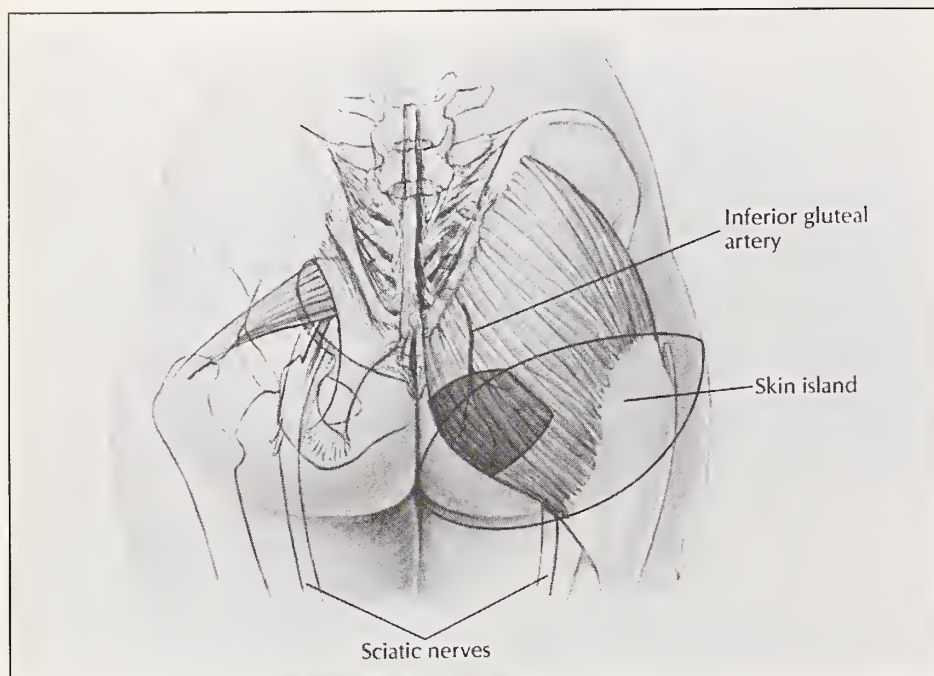


Figure 4 — Free inferior gluteal flap based on right IGA pedicle.

Dextran 40 in saline is given as a 30 cc bolus when microvascular clamps are released upon completing the anastomoses and continued at 30 cc/h for 4 days. The patient is also given a 1 gm dose of methylprednisolone at the time of clamp removal.

After abducting the extremity and observing the pedicle for any kinks, the flap is inset and shaped. The free TRAM flap has an inferior pedicle directed towards the axilla and is usually inset in an oblique or transverse manner. The side with the rectus muscle block and pedicle is usually lateral. Portions of the flap are resected or deepithelialized as required to match the opposite breast. Closed suction drains are placed in the axilla and beneath the breast reconstruction (Figure 3).

Superior pedicle TRAM reconstruction may necessitate the use of a prosthetic mesh for closure of abdominal fascia. As only a small piece of rectus muscle and fascia are harvested with a free TRAM flap, the abdominal fascia is closed directly. An abdominal plication is

performed and the umbilicus repositioned prior to abdominal skin closure.

SIEA

The lower abdominal ellipse of skin and subcutaneous tissues may be based on the SIEA. The pedicle is often 7 to 8 cm long; however, the vessel diameter is small, 1 to 2 mm, for the artery and vein. This vascular anatomy is highly variable and may be absent in up to 35% of patients.⁸ This flap is comprised of skin and subcutaneous tissue. No muscle or fascia are harvested, yet the limitations in flap vessel size and anatomy make this flap a second choice to the free TRAM flap.

Gluteus Maximus

If lower abdominal skin and subcutaneous tissues are not an option secondary to scars or inadequate local tissues, or if the patient prefers the gluteal donor site and buttock reduction, the inferior gluteal free flap is selected for breast reconstruction.

The superior gluteal artery (SGA) and inferior gluteal artery (IGA) are

the dominant arterial pedicles to the superior and inferior half of the gluteus maximus muscle, respectively. The piriformis muscle separates the two arteries after they separate from the internal iliac artery and exit the pelvis. Also exiting the pelvis below the piriformis muscle, the sciatic nerve courses parallel to the IGA in the buttocks.

We prefer the inferior gluteal flap for the long vascular pedicle and favorable donor scar that is hidden in the inferior gluteal crease (Figure 4).⁹ The patient is placed in a lateral decubitus position, flap side up, to harvest the gluteal flap. This is a disadvantage of the procedure, as the patient will subsequently need to be re-positioned to inset the flap. The skin island is oriented along the inferior border of the muscle centered along the infragluteal crease. The inferior border of the flap is incised and the posterior cutaneous nerve of the thigh and IGA are identified. These structures are dissected to the anterior surface of the gluteus maximus. The skin and subcutaneous tissues are dissected off the underlying muscle laterally to the IGA and posterior cutaneous nerve of the thigh. The posterior cutaneous nerve must be sacrificed, leaving a small area of the posterior thigh insensate. At this point the gluteus muscle is incised, and the vascular pedicle is identified and dissected proximally. When the pedicle is fully exposed, the muscle incision is carried superiorly and medially to completion. Sufficient muscle is preserved to cover the sciatic nerve after the flap is harvested.

When the recipient vessels are prepared the flap is transferred and revascularized much as a free TRAM flap. The donor defect is closed, and the patient is placed in a supine position with the opposite breast draped into the field. Shaping of the flap is carried out to match the contralateral breast (Figure 5). A reduction of the opposite

buttock is usually required at a later date for symmetry unless bilateral reconstructions are planned.

Thigh Flaps

Excess thigh skin and fat may be elevated as a flap based on the tensor fascia lata or gracilis muscles.

TFL Flap

The tensor fascia lata (TFL) flap is an option for breast reconstruction in those patients who have localized fatty deposits on the lateral thigh and in whom the TRAM and gluteal flaps are unavailable because of scars or scant local tissue.

Entering the muscle at a point approximately 10 cm inferior to the anterosuperior iliac spine, the terminal branch of the lateral circumflex femoral artery is the dominant pedicle entering the TFL muscle medially. This vessel is usually 7 to 8 cm in length with a lumen diameter of 2 to 3 mm. A transverse, lateral skin island is preferred to include the trochanteric "saddlebag" area.

Gracilis Flap

A transverse gracilis flap may be employed much as a TFL flap. These flaps are useful in those patients with localized fat in the medial thigh and no available TRAM or gluteal donor site. The gracilis muscle receives a dominant pedicle from the medial circumflex femoral artery. This is a smaller, shorter pedicle. Usually the vessels are 5 to 6 cm long and have a lumen of 1 to 2 mm.

Latissimus Dorsi, Omentum

For large, open chest wounds complicated by radiation tissue injury, the latissimus dorsi muscle and omentum are additional options for wound salvage.¹⁰ In cases where there is no radiation injury to the brachial plexus, our first choice for closure of these often extensive wounds is the TRAM flap followed by the contralateral free latissimus

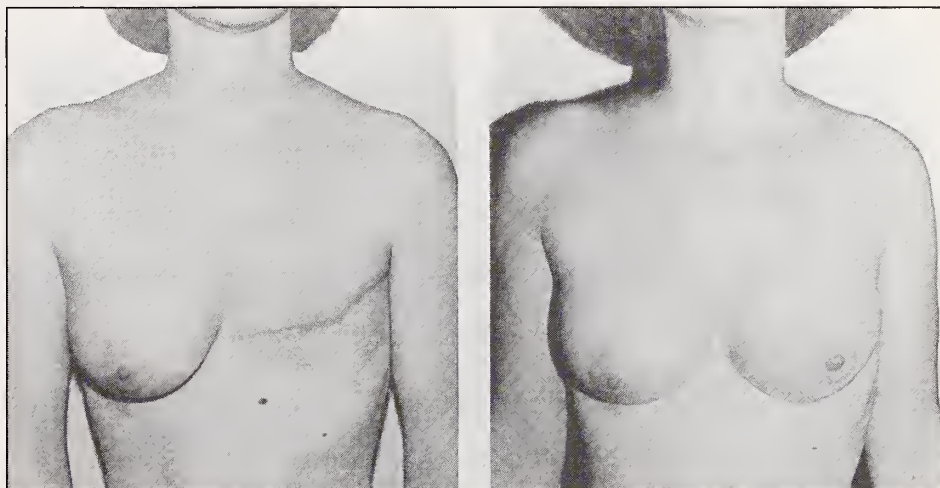


Figure 5 — (Left) A 32-year-old woman following left mastectomy and, (Right) after free inferior gluteal breast reconstruction.

flap. When the wound is also complicated by a brachial plexus neuropathy, our first choice is the greater omentum.

Free tissue transfer breast reconstruction offers a wider range of donor tissues. These procedures are not for the patient desiring a rapid, simple reconstruction or for the inexperienced surgeon.

Our Experience and Complications

In our 11-year experience, we have completed 45 TRAM, 18 inferior gluteal, four latissimus, four omentum, and one SIEA microsurgical breast reconstructions, for a total of 72 cases. There have been no complete flap losses in our experience. Within the set of free TRAM reconstructions, we have seen one abdominal hernia and

one case of postoperative respiratory failure requiring intubation. The remainder of the complications were in the inferior gluteal group. There were five donor site seromas, one partial flap loss requiring further reconstruction, one hematoma, one posterior cutaneous nerve of the thigh neuroma, and one transient brachial plexus neuropraxia secondary to operative positioning. We feel that all patients completed their reconstruction with a soft, warm, flowing breast, with a complication rate below or equal to that of other breast reconstruction methods.

Conclusion

Early in our experience microsurgical free flap breast reconstruction was only undertaken in salvage situations where all else had failed, a last resort. However, over the last few years with greater experience it has emerged as the method of choice, a first resort, in selected patients, yielding results unmatched by any other method, with minimal complications.

The TRAM flap has emerged as the standard for free flap breast reconstruction with its abundant tissue and long pedicle length. As surgical technique progresses, complications of flap loss, hema-

toma, and abdominal wall laxity continue to become less common. We believe that with current techniques, total flap loss for free TRAM breast reconstruction should be less than 1%.

Microsurgical breast reconstruction provides a warm, living breast that remains stable over a patient's lifetime without the use of prosthetic implants. Many plastic surgeons already consider this to be the method of choice for breast reconstruction, and the number of these reconstructions performed will likely increase as more surgeons are trained in microvascular technique. When performed by experienced reconstructive surgeons, we feel no reconstruction can consistently match the aesthetic results

of a free TRAM breast reconstruction. Similarly, in inexperienced hands the possible complications are also unmatched.

Acknowledgment

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Recent Advances in the Treatment of Hypertrophy and Ptosis of the Breast

Nabil Elsayh, M.D., F.A.C.S.

Introduction

PATIENTS SEEKING surgical correction of excessively large or pendulous breasts have often experienced much physical and psychological trauma by the time they come to us. Reduction mammoplasty and mastopexy are performed with increasing frequency on a population in which a youthful and athletic figure is desired. The primary objective of the reduction mammoplasty is to reduce the size of the breast with redraping of the skin envelope to provide lifting and projection of a naturally contoured breast with aesthetically situated nipple-areola complexes and scar.

Indications

The usual signs and symptoms of breast hypertrophy are one or more of the following conditions:

Orthopedic

The heavy breasts change the center of gravity by increasing cervical lordosis and thoracic kypho-

Reduction mammoplasty and mastopexy are performed with increasing frequency on a population in which a youthful and athletic figure is desired.

sis with compensatory lumbar lordosis. Cervical lordosis may cause neck pain and fatigue and by compressing the suboccipital nerves may cause occipital headaches. Thoracic kyphosis may cause aching shoulders, while lumbar lordosis may cause low back pain. The heavy breast may also pull the shoulder forward, depressing the

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coracoid process and compressing the lowest cord containing branches of the ulnar nerve, which leads to paresthesia of the hypothenar eminence and the fourth and fifth digits.¹

Pulmonary

The heavy breasts increase the effort of respiration during thoracic expansion. The patient may develop pulmonary problems that may lead to emphysema and cardiovascular problems.²

Skin

Large brassieres, necessary to support the heavy breasts, may cut deep grooves into the shoulders. The subcutaneous tissues become compressed and atrophic with possible ulceration of the skin. The moisture that collects in the submammary sulcus often leads to intertrigo.²

Psychological

Heavy breasts may prevent the woman from fully developing her personality and may result in inferiority complexes. It may also restrict her athletic and social activities.²

Preoperative Evaluation

All patients should undergo a thorough physical examination. Contraindications for surgery range from psychologic (e.g., unrealistic expectations) to somatic problems (e.g., poor operative risk). Breast disease, if present, must be cared for before any elective surgical procedure is attempted. The ideal age of the patient for surgery is after 16, but virginal hypertrophy of the breast (that may appear suddenly at the beginning of the menstrual flux) is the sole indication for surgery before that age (Figure 1). There are no upper age limits for surgery, provided the medical risk of the surgery is considered.

Reduction Mammoplasty

Although the techniques of reduction mammoplasty were recorded hundreds of years ago, the state-of-the-art practice developed only recently. At the present time two techniques appear to be more commonly used. These are breast amputation and free nipple graft³ and techniques using nipple-carrying dermal glandular flaps.

Although the technique has been recently modified, it is not the most common technique. Its main indication is the extremely heavy breast of the elderly and poor-risk patients, since the technique is fast with little stress on the patient and causes minimal blood loss. The technique, however, has the disadvantage of causing loss of sensitivity of the nipple and breast-feeding ability. In addition, it causes depigmentation of the areola and results in the formation of double scar on the breast.

Techniques using nipple-carrying dermal glandular flaps may utilize unipedicle, bipedicle, or tripedicle flaps (Figure 2).

Unipedicle Flaps

1. Inferior pedicle flap⁴: This is the most popular technique. It is

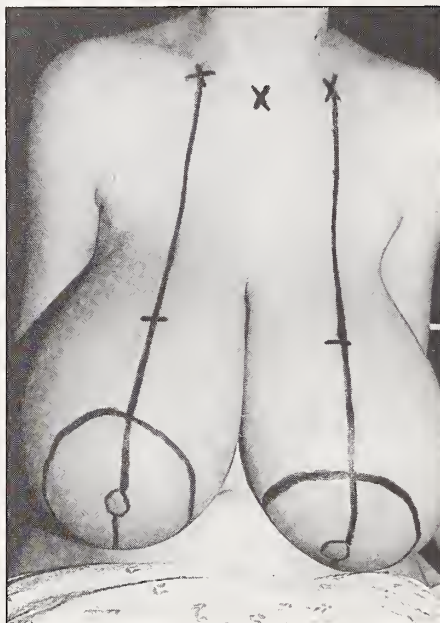


Figure 1 — Sixteen-year-old patient with massive breast hypertrophy of endocrine origin (virginal hypertrophy). The transverse lines drawn represent the new locations of the nipples.

versatile and yields uniformly satisfactory results. It has the advantage of maximizing the blood supply to the flap and allowing the breast tissue to be easily coned. It preserves lactation, as well as nipple sensation and projection.

The patient is marked preoperatively in a standing position. A line is marked from the midclavicle through the nipple across the inframammary fold. The new location of the areola is determined by placing the index finger at the inframammary crease and palpating this position on the outer breast at the midclavicular line. A wire keyhole pattern is then adjusted, and diverging lines are drawn from this key point to either side to the areola of 5 cm. The lines are then directed medially and laterally to intersect the inframammary fold. The areola is circumscribed at a diameter of

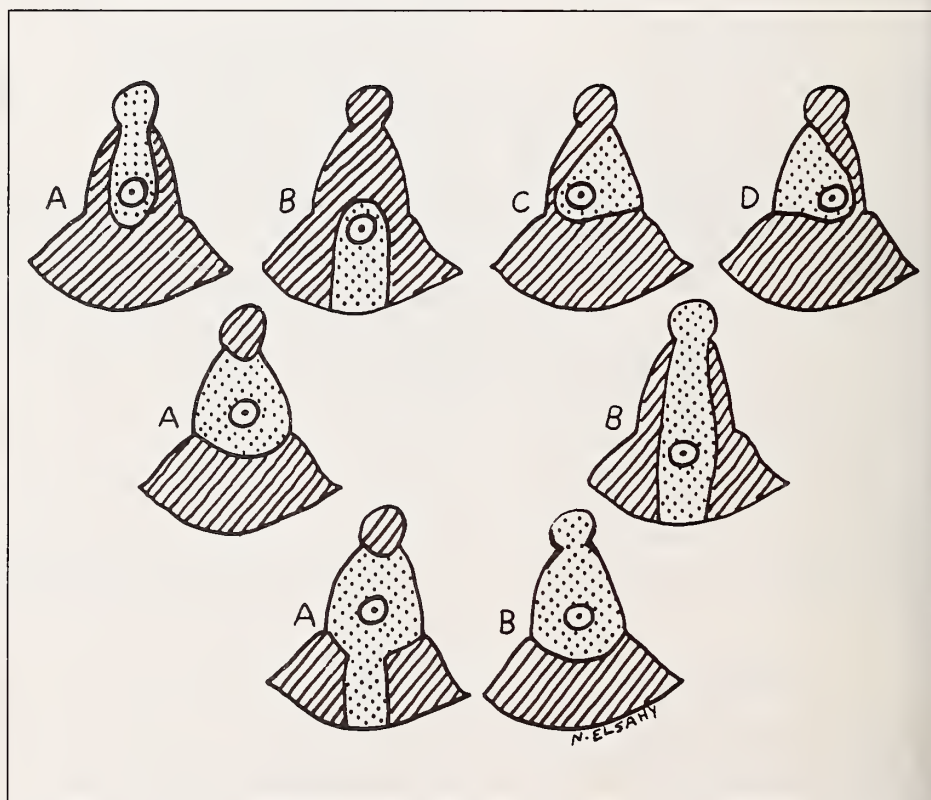


Figure 2 — Classification of the types of dermal flaps (above) the unipedicle flaps: A-superior pedicle; B-inferior pedicle; C-medical pedicle; D-lateral pedicle. (Center) The bipedicle flaps: A-horizontal; B-vertical. (Below) The tripedicle flaps: A-2 horizontal and 1 inferior; B-2 horizontal and 1 superior (author's technique).

42 mm. An inferiorly based flap is planned with a base of 8 cm at the inframammary fold and ascending to include the nipple-areola complex. The flap is de-epithelialized and elevated, while the breast tissue is resected medial, lateral, and superior to the flap. The flap is folded superiorly upon itself, bringing the areola into position. The medial and lateral flaps are brought together over the pedicle and sutured together in the midline. The wound is closed in an inverted-T shape.

2. Superior pedicle flap^{5,6}: This technique is well suited for the moderate degree of breast hypertrophy.

3. Medial pedicle flap⁷: This is a modification of Strombeck bipedicle technique.

4. Lateral pedicle flap⁸: This technique may endanger the blood supply and is not advocated.

Bipedicle Flaps

1. Horizontal bipedicle flap of Strombeck⁹: The disadvantage of this technique appears when the pedicle is short and its upward rotation is difficult. In addition, nipple inversion and deformity is frequent. Modification of the technique allows one to choose the new nipple location during surgery, rather than before surgery as has been described, as an aid in preventing malpositioning of the areola.¹⁰

2. Vertical bipedicle flap of McKissock¹¹: This is a commonly performed technique. The inferior pedicle flap is actually a modification of this technique, based on the finding that the additional upper extension of the flap offers no advantage.¹² The technique may be modified to choose the new nipple location during surgery rather than before surgery.¹³

Tripedicle Flaps

Tripedicle flaps may be used to assume more blood supply to the nipple (Figure 3).¹⁴⁻¹⁶ In an attempt

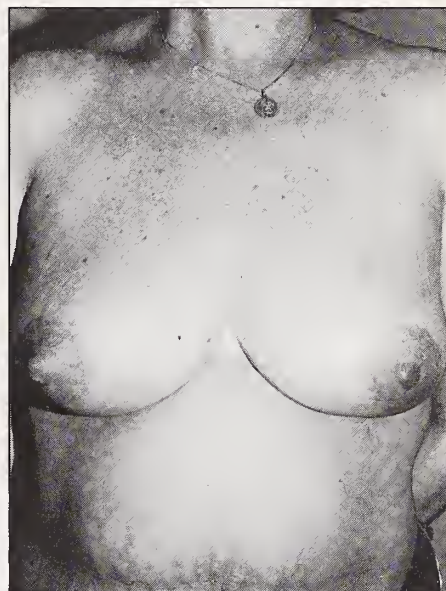


Figure 3 — (Left) A 41-year-old woman with asymmetric hypertrophy and ptosis of the breasts. (Right) Appearance 8-months postoperatively after using the author's hexagonal technique.

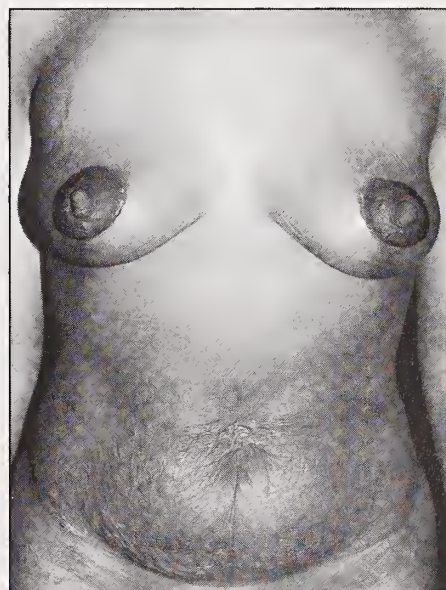
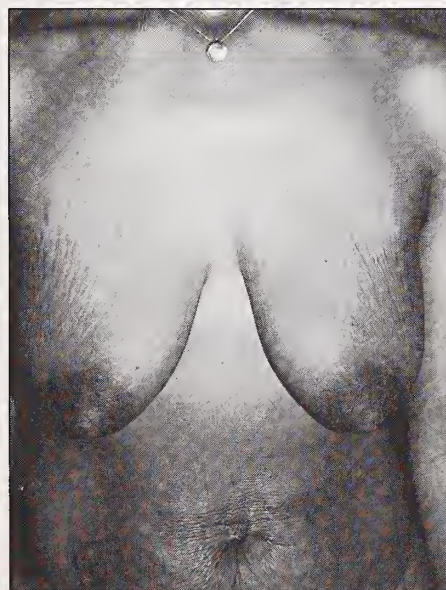


Figure 4 — (Left) A 38-year-old woman with severe ptosis and redundant breast skin. (Right) Appearance 3-months postoperatively after using the author's hexagonal technique.

to minimize the inverted-T scar, other techniques have been described such as the L-scar,¹⁷ the vertical scar,¹⁸ the horizontal scar,¹⁹ the Z-scar,²⁰ and the B-scar techniques.²¹ One should not jeopardize the breast shape to obtain a small scar. These techniques may be more suited for the medium-sized breast.

Postoperative Care

The drain should be removed after 48 to 72 hours, depending upon the amount of drainage. The patient should wear a soft brassiere continuously day and night for a month. Minimal movement of the shoulder is recommended during this period. The stitches are re-

moved after the incision lines are reinforced with fresh Steri-Strips.

Complications

1. Avascular necrosis of nipple, skin, parenchyma, or a combination of the three with partial necrosis or skin loss. Major skin loss, however, is uncommon today in the hands of experienced surgeons. Small artery disease that accompanies diabetes and vasculitis that is present in some heavy smokers can be a contributing factor to avascular necrosis.²² Treatment involves debridement, packing of wound, and the resulting defect left to heal by second intention. The resulting scar may need revision several months later. Some degree of fat necrosis occurs frequently months later.

2. Infection, hematoma, or wound dehiscence are not unique to breast surgery and do not present unique problems regarding their recognition and treatment.²²

3. Hypertrophic scarring is the most significant drawback to the operation. Surgical revision of the scar may be necessary several months later.

4. Diminished nipple-areolar sensation may occur. Return of lost sensibility several months later may be partial or complete.

5. Asymmetry of the breasts in volume or contour. The most common cause is preoperative asymmetry. This, however, can be revised later on.

6. Malpositioning of the nipple-areola is the most common artistic error in mammoplasty.²² The nipple may be positioned too high or too

low. This can also be corrected at a later date.

7. Nipple-areola deformity such as off-center nipple, a comma-shaped areola. This can also be corrected with secondary operation.²³

Mastopexy

Mastopexy corrects ptosis or drooping of the breast. Ptosis occurs as a result of loss of elasticity in the dermis due either to age, multiple births, or to loss of mass resulting from postpartum atrophy, age, or dramatic weight loss. The object of ptosis correction is to achieve a firmer and more youthful-appearing breast (Figure 4). The surgical measures to correct ptosis and breast hypertrophy are in many respects similar. The area of excess skin in ptosis, however, is de-epithelialized and enfolded to be contained in the new skin brassiere without the removal of any breast tissue.

Summary

Changing fashions and popular demand are forcing us to adapt higher standards in breast surgery. The surgical techniques for breast reduction and mastopexy and the complications has been presented.

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Abdominal Lipectomy as an Office Procedure

Thomas A. Cochran, M.D.

Abstract

Because of the increasing cost of hospitalization, many plastic surgeons have tried to make cosmetic surgery more affordable by performing procedures in the office operating room under local anesthesia and sedation. Standard abdominal lipectomy has classically been considered a procedure to be carried out in the hospital under general anesthesia. Following is the author's technique for performing the procedure under local anesthesia in the office setting.

Results

We have performed 71 lipectomies using this technique. The mean age of the patients was 39.2 years. The average blood loss was approximately 200 cc's. There were no

STANDARD ABDOMINAL lipectomy has been performed for many years and the technique is well described in the literature. The procedure has been routinely carried out on an in-patient basis under general anesthesia. Limited lower abdominal lipectomy has been carried out in the office outpatient operating rooms by many plastic surgeons, but the standard abdominal lipectomy has not been described as an office procedure in the surgery literature. Because of the escalating cost of hospital care, there is a need for a more cost-effective method for performing standard abdominal lipectomy. Many surgeons have performed a limited lipectomy in the office operating room sometimes when a larger procedure would have been more appropriate, just because the lesser procedure could be performed un-

der local anesthesia. Standard abdominal lipectomy is safe and can be carried out in the office without compromising the final results in a large percentage of patients presenting for abdominal lipectomy. The procedure is carried out with a combination of pre-operative medication, local anesthetic, IV sedation, and ketamine. The surgical technique, placement of the local anesthetic, and timing of all IV medications are critical in assuring that a safe and minimal dose of all drugs are used.

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intraoperative complications, and because of the small doses of IV medications, all patients were awake and alert before reaching the recovery room. No patient received anything stronger than hydrocodone for postoperative pain, and only 10% of patients required more than 30 tablets for the complete recovery period.

All patients were discharged home approximately 2 hours after the completion of surgery. No special overnight recovery facility was used. The patients were cared for by their families or friends. Their activity was restricted only by their pain and discomfort and not by

FIGURE I

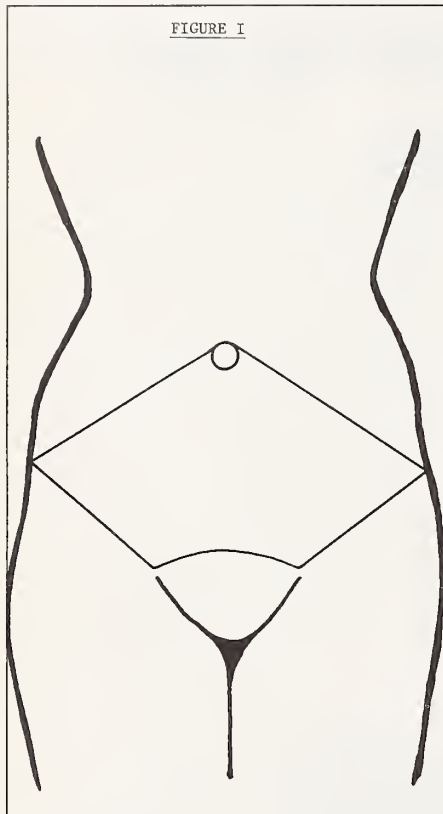


FIGURE II

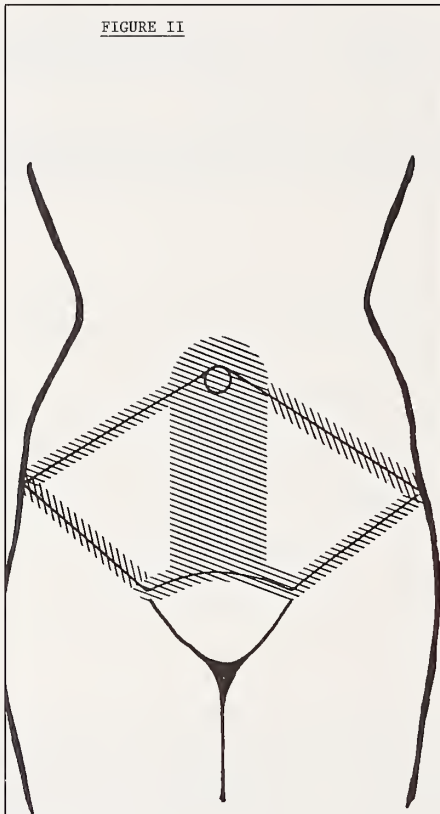
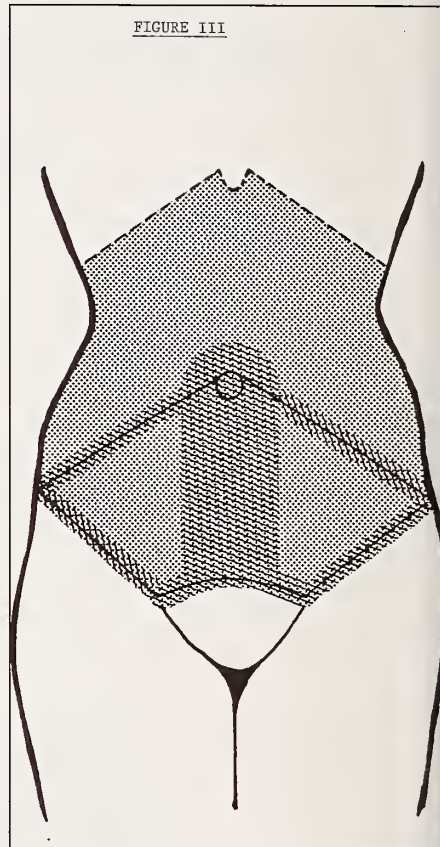


FIGURE III

**Figure 1**

1. Accurate pre-operative marking. (Marking must be the exact location of the incision.)
2. Versed 2-5 mg I.V. (give until speech slurs)
3. Ketamine 50 mg (average dose)
4. Inject (100 cc of .25% marcaine) along all shaded areas while patient is under the influence of ketamine. Injection should include skin markings. Shaded area from pubis to just above the umbilicus should be infiltrated just superficial to the fascia. Make sure areas of skin incision are injected thoroughly and all the way to the fascia.

Figure 2

5. a) Make incision along upper and lower marking (including umbilicus) down to the fascia.
- b) Obtain hemostasis
- c) Start dissection of flap from each side and continue until patient experiences discomfort.
- d) Start dissection of shaded area above umbilicus, and continue again until patient experiences discomfort.
6. 50 mg of Ketamine (more versed if needed).

Figure 3

7. Rapid blunt and limited sharp dissection of stippled areas and removal of redundant panniculus. This requires 5 to 10 minutes.
8. Hemostasis of stippled areas.
9. Plication of rectus. This requires no additional sedation, but may possibly require 5-10cc of marcaine along certain areas in the rectus fascia. (Usually no additional anesthetic is required.)
10. Incision closed with patient in flexed position and drain (Jackson-Pratt) brought through the incision.
 - a) 2-3cc of local anesthetic at site where umbilicus is to be placed.
 - b) Make incision and suture umbilicus in place.

specific instructions from their surgeon.

Complications

The overall complication rate was 25%. Nine patients (13%) experienced seromas requiring aspiration. The patients' early activity could have contributed to this slightly higher than expected incidence of seroma.

There were no hematomas requiring evacuation, although many of the seromas may have developed from clinically insignificant hematomas.

Six patients developed skin necrosis requiring more than 4 weeks for healing. One of those was a 5 cm deep second degree burn at the level of the umbilicus. This area developed 5 weeks postoperatively

following several hours of sunbathing. One patient required 3 months for complete healing and accounted for the only significant problem in the entire group. Four patients required a secondary revision. Two of these revisions were

TABLE 1 — Complications

	<i>Number</i>	<i>Percent</i>
Seroma (requiring aspiration)	9	13%
Hematoma (clinically recognizable)	0	0%
Skin Necrosis (required greater than 4 weeks healing time)	6	8%
Required Secondary Procedures	4	6%
Pulmonary Embolus	0	0%
Thrombophlebitis	0	0%
Other Medical or Surgical Complications	0	0%

revisions in the area of skin necrosis, and two were suction procedures to correct minor asymmetries.

Discussion

Cosmetic surgeons, out of necessity, have been extremely innovative in providing quality care to patients at the most economical cost feasible. Many procedures that were routinely performed in the hospital are now performed in the office operating room. A high percentage of abdominal lipectomies

can be carried out in the office setting under local anesthesia with no increased risk or discomfort to the patient. As with all office surgery, there are relative contraindications to performing the procedure in the office. Patients with significant medical problems probably should have their surgery performed in the hospital. Patients with extremely large panniculi, similar to those seen following massive weight loss, may be difficult to do under local anesthesia because of the large dose of local anesthetic that is re-

quired. Patients with ventral hernias or significant abdominal scars may also be very difficult to do under local anesthesia. There are also a few patients who simply do not wish to undergo this procedure in the office. Nevertheless, there are still a large percentage of patients that are candidates for abdominal lipectomy in the office setting. Plastic surgeons with properly certified operating rooms should seriously consider offering this alternative to their patients.

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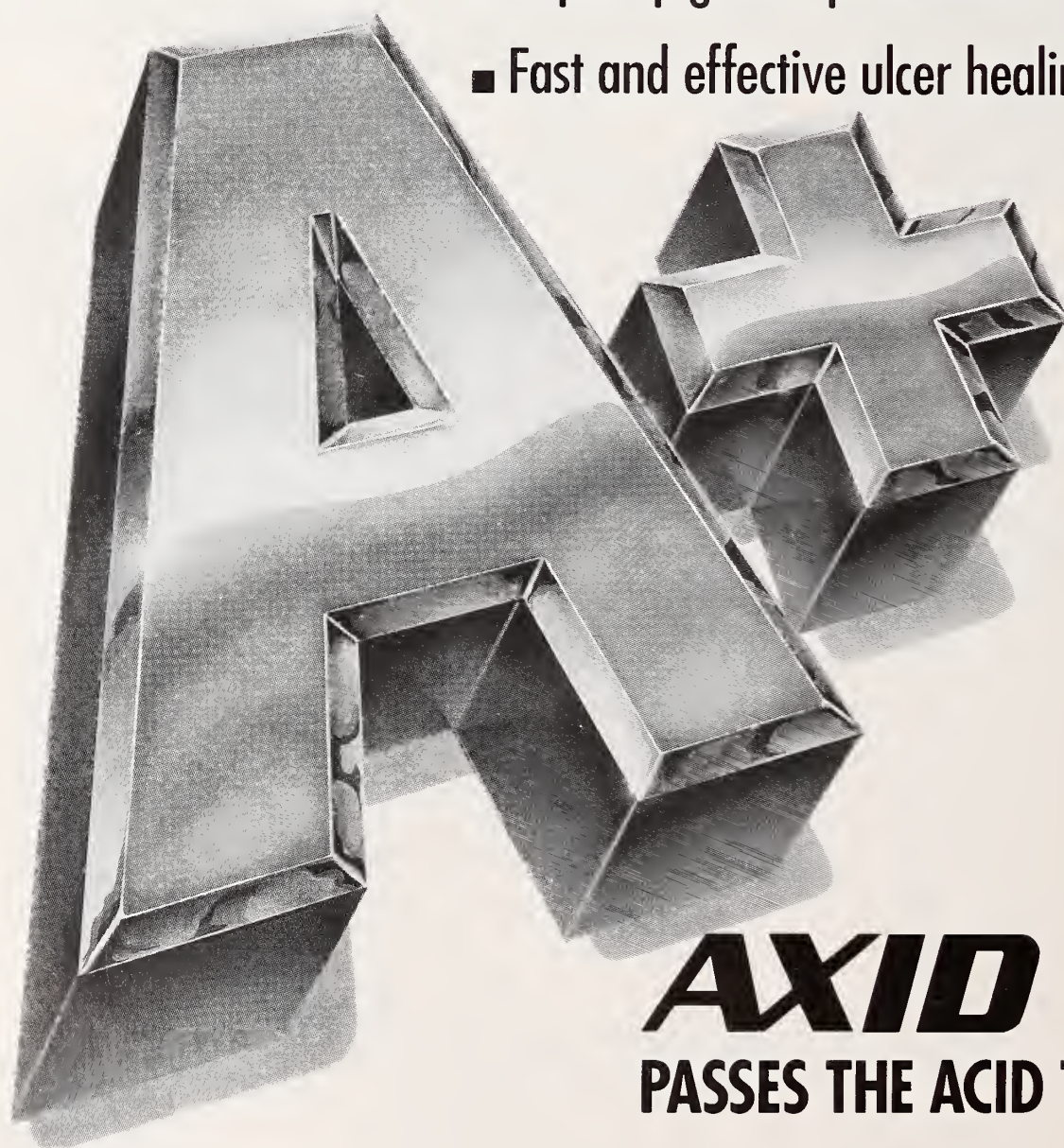
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2. Dosage should be reduced in patients with moderate to severe renal insufficiency.

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Carcinogenesis, Mutagenesis, Impairment of Fertility—A 2-year oral carcinogenicity study in rats with doses as high as 500 mg/kg/day (about 80 times the recommended daily therapeutic dose) showed no evidence of a carcinogenic effect. There was a dose-related increase in the density of enterochromaffin-like (ECL) cells in the gastric oxyntic mucosa. In a 2-year study in mice, there was no evidence of a carcinogenic effect in male mice, although hyperplastic nodules of the liver were increased in the high-dose males as compared with placebo. Female mice given the high dose of Axid (2,000 mg/kg/day, about 330 times the human dose) showed marginally statistically significant increases in hepatic carcinoma and hepatic nodular hyperplasia with no numerical increase seen in any of the other dose groups. The rate of hepatic carcinoma in the high-dose animals was within the historical control limits seen for the strain of mice used. The female mice were given a dose larger than the maximum tolerated dose, as indicated by excessive (30%) weight decrement as compared with concurrent controls and evidence of mild liver injury (transaminase elevations). The occurrence of a marginal finding at high dose only in animals given an excessive and somewhat hepatotoxic dose, with no evidence of a carcinogenic effect in rats, male mice, and female mice (given up to 360 mg/kg/day, about 60 times the human dose), and a negative mutagenicity battery are not considered evidence of a carcinogenic potential for Axid.

Axid was not mutagenic in a battery of tests performed to evaluate its potential genetic toxicity, including bacterial mutation tests, unscheduled DNA synthesis, sister chromatid exchange, mouse lymphoma assay, chromosome aberration tests, and a micronucleus test.

In a 2-generation, perinatal and postnatal fertility study in rats, doses of nizatidine up to 650 mg/kg/day produced no adverse effects on the reproductive performance of parental animals or their progeny.

Pregnancy—Teratogenic Effects—Pregnancy Category C—Oral reproduction studies in rats at doses up to 300 times the human dose and in Dutch Belted rabbits at doses up to 55 times the human dose revealed no evidence of impaired fertility or teratogenic effect; but, at a dose equivalent to 300 times the human dose, treated rabbits had abortions, decreased number of live fetuses, and depressed fetal weights. On intravenous administration to pregnant New Zealand White rabbits, nizatidine at 20 mg/kg produced cardiac enlargement, coarctation of the aortic arch, and cutaneous edema in 1 fetus, and at 50 mg/kg, it produced ventricular anomaly, distended abdomen, spina bifida, hydrocephaly, and enlarged heart in 1 fetus. There are, however, no adequate and well-controlled studies in pregnant women. It is also not known whether nizatidine can cause fetal harm when administered to a pregnant woman or can affect reproduction capacity. Nizatidine should be used during pregnancy only if the potential benefit justifies the potential risk to the fetus.

Nursing Mothers—Studies in lactating women have shown that 0.1% of an oral dose is secreted in human milk in proportion to plasma concentrations. Because of growth depression in pups reared by treated lactating rats, a decision should be made whether to discontinue nursing or the drug, taking into account the importance of the drug to the mother.

Pediatric Use—Safety and effectiveness in children have not been established.
Use in Elderly Patients—Healing rates in elderly patients were similar to those in younger age groups as were the rates of adverse events and laboratory test abnormalities. Age alone may not be an important factor in the disposition of nizatidine. Elderly patients may have reduced renal function.

Adverse Reactions: Clinical trials of varying durations included almost 5,000 patients. Among the more common adverse events in domestic placebo-controlled trials of over 1,900 nizatidine patients and over 1,300 on placebo, sweating (1% vs 0.2%), urticaria (0.5% vs <0.01%), and somnolence (2.4% vs 1.3%) were significantly more common with nizatidine. It was not possible to determine whether a variety of less common events were due to the drug.

Hepatic—Hepatocellular injury (elevated liver enzyme tests or alkaline phosphatase) possibly or probably related to nizatidine occurred in some patients. In some cases, there was marked elevation (>500 IU/L) in SGOT or SGPT and, in a single instance, SGPT was >2,000 IU/L. The incidence of elevated liver enzymes overall and elevations of up to 3 times the upper limit of normal, however, did not significantly differ from that in placebo patients. All abnormalities were reversible after discontinuation of Axid. Since market introduction, hepatitis and jaundice have been reported. Rare cases of cholestatic or mixed hepatocellular and cholestatic injury with jaundice have been reported with reversal of the abnormalities after discontinuation of Axid.

Cardiovascular—In clinical pharmacology studies, short episodes of asymptomatic ventricular tachycardia occurred in 2 individuals administered Axid and in 3 untreated subjects.

CNS—Rare cases of reversible mental confusion have been reported.
Endocrine—Clinical pharmacology studies and controlled clinical trials showed no evidence of antiandrogenic activity due to nizatidine. Impotence and decreased libido were reported with equal frequency by patients on nizatidine and those on placebo. Gynecomastia has been reported rarely.

Hematologic—Fatal thrombocytopenia was reported in a patient treated with nizatidine and another H₂-receptor antagonist. This patient had previously experienced thrombocytopenia while taking other drugs. Rare cases of thrombocytopenic purpura have been reported.

Integumental—Sweating and urticaria were reported significantly more frequently in nizatidine- than in placebo-treated patients. Rash and exfoliative dermatitis were also reported.

Hypersensitivity—As with other H₂-receptor antagonists, rare cases of anaphylaxis following nizatidine administration have been reported. Rare episodes of hypersensitivity reactions (eg, bronchospasm, laryngeal edema, rash, and eosinophilia) have been reported.

Other—Hyperuricemia unassociated with gout or nephrolithiasis was reported. Eosinophilia, fever, and nausea related to nizatidine have been reported.

Overdosage: Overdoses of Axid have been reported rarely. If overdosage occurs, activated charcoal, emesis, or lavage should be considered along with clinical monitoring and supportive therapy. Renal dialysis does not substantially increase clearance of nizatidine due to its large volume of distribution.

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Action: Yohimbine blocks presynaptic alpha-2 adrenergic receptors. Its action on peripheral blood vessels resembles that of reserpine, though it is weaker and of short duration. Yohimbine's peripheral autonomic nervous system effect is to increase parasympathetic (cholinergic) and decrease sympathetic (adrenergic) activity. It is to be noted that in male sexual performance, erection is linked to cholinergic activity and to alpha-2 adrenergic blockade which may theoretically result in increased penile inflow, decreased penile outflow or both.

Yohimbine exerts a stimulating action on the mood and may increase anxiety. Such actions have not been adequately studied or related to dosage although they appear to require high doses of the drug. Yohimbine has a mild anti-diuretic action, probably via stimulation of hypothalamic centers and release of posterior pituitary hormone.

Reportedly, Yohimbine exerts no significant influence on cardiac stimulation and other effects mediated by B-adrenergic receptors, its effect on blood pressure, if any, would be to lower it; however no adequate studies are at hand to quantitate this effect in terms of Yohimbine dosage.

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Warning: Generally, this drug is not proposed for use in females and certainly must not be used during pregnancy. Neither is this drug proposed for use in pediatric, geriatric or cardio-renal patients with gastric or duodenal ulcer history. Nor should it be used in conjunction with mood-modifying drugs such as antidepressants, or in psychiatric patients in general.

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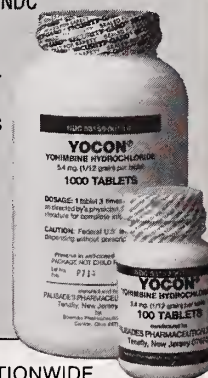
Dosage and Administration: Experimental dosage reported in treatment of erectile impotence.^{1,3,4} 1 tablet (5.4 mg) 3 times a day, to adult males taken orally. Occasional side effects reported with this dosage are nausea, dizziness or nervousness. In the event of side effects dosage to be reduced to 1/2 tablet 3 times a day, followed by gradual increases to 1 tablet 3 times a day. Reported therapy not more than 10 weeks.³

How Supplied: Oral tablets of Yocon® 1/12 gr. 5.4 mg in bottles of 100's NDC 53159-001-01 and 1000's NDC 53159-001-10.

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Body Contouring: Refined Diagnosis and Technique

Walter L. Erhardt, Jr., M.D., F.A.C.S.

BODY CONTOURING is experiencing a resurgence. Those collective procedures used to improve the appearance of the trunk and extremities are being requested by patients in ever increasing numbers.¹ This increased acceptance is in a large part due to today's emphasis on youthfulness, health, and fitness. Heightened body awareness has not only turned people's attention toward a pursuit of "healthfulness" but also has created a desire within them to have a body that reflects those efforts. While much can be done with diet and exercise to improve both fitness and body form, there are factors, such as age, sex, and heredity, that compromise these efforts. Body contour surgery can often be used to enhance the improvement in form obtained from diet and exercise.

The improvement of plastic surgical and anesthetic techniques in body contouring has also contributed to its increased popularity. Previously used only for major deformities, the procedures today

We have entered an era of refinement in body contouring where we have the means to effectively adjust skin and fat, independently or concomitantly.

allow for the correction of mild physical aberrations, widening the indications, and making body contouring accessible to more individuals. Additionally, such refinements permit many body contouring procedures to be performed in an outpatient setting, lowering costs and making such surgery more accessible.

Evolution of Today's Body Contouring Techniques

It has been said that vanity is instinctive and crosses all lines.² Just

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as vanity is boundless and ageless, so too is man's desire to change his body, as evidenced by the Chinese practice of binding the feet or the Ubangi practice of lip enlargement. Yet unlike these ancient non-surgical examples, the advent of body contour surgery is really quite recent.

Surgical Contouring

While the first account of a dermolipectomy appeared in 1889,³ these early surgical procedures addressed massive skin/fat redundancies and were attempted for functional improvement only. However, with Lewis' description of a thigh lift in 1957⁴ and Pitanguy's publication of his technique for the correction of trochanteric lipodystrophy in 1964⁵ and abdominal dermolipectomy in 1967,^{6,7} modern body contour surgery began. With much interest in abdominal dermolipectomy, Regnault,⁸ Grazer⁹ and many others^{3,10} contributed to the process whereby the emphasis of these procedures changed from a functional to a more aesthetic nature. During

this period, the development of upper extremity dermolipectomy also occurred.^{3,11,12}

Suction Lipectomy

Evolving during much the same time was another surgical technique which would soon revolutionize the approach to body contour surgery. This technique was the blind removal of subcutaneous body fat. Josef Schrudde of Germany in the 1960s first described the removal of fat from the hips, thighs, and ankle regions. He utilized a sharp curette and termed the procedure "lipexhesis."¹³ Kesselring of Switzerland utilized a similar approach but attached the curette to suction.¹⁴ While all of these early procedures successfully removed fat, they also obliterated the blood vessels, lymphatics, and retinacula cutis, creating a dead space at the subcutaneous level. As a result, the overlying skin, losing its attachments to the underlying supportive tissues, was free to slide or droop.

Just as suction lipectomy altered our approach to abdominal body contouring, liposuction has exerted an even more profound effect on the treatment of deformities of the medial and lateal thighs.

However, in 1977, Illouz evolved a technique whereby a blunt cannula, attached to a high vacuum suction, was introduced into the subcutaneous tissue. This cannula was manipulated to remove fat which was evacuated through the suction tubing.^{15,16} This technique



Figure 1. View of subcutaneous space following liposuction showing intact supportive tissue.

allowed fat removal yet spared the supportive subcutaneous tissues and maintained the skin's connection to the underlying structures (Figure 1). First presented in the United States in 1982, this technique has become an accepted and reliable method of reducing the volume of localized subcutaneous fat with minimal scarring, relatively rapid recovery, and low surgical risk.² That this procedure can indeed satisfactorily modify contour in a variety of body locations is borne out by the fact that liposuction was the most commonly performed cosmetic plastic surgical procedure in 1990.¹

Two Approaches Merge

Each approach, surgical contouring and liposuction, continued to develop relatively independently of the other, and each approach had something to contribute. With traditional surgical contouring procedures, plastic surgeons had at their disposal the techniques to adjust and redrape the skin envelope.^{3,6,7,9,10} Suction lipectomy, on the other hand, clearly emerged as the preferred means to adjust localized subcutaneous lipodystrophies.^{13,15,17}

Yet both approaches had their shortcomings. Liposuction could

Table 1 — Classification System, Based on Soft Tissue Findings, to Determine Best Surgical Approach

Category	Surgical Approach
Type I	Liposuction
Type II	Mini-abdominoplasty
Type III	Modified abdominoplasty
Type IV	Standard abdominoplasty with/without suction

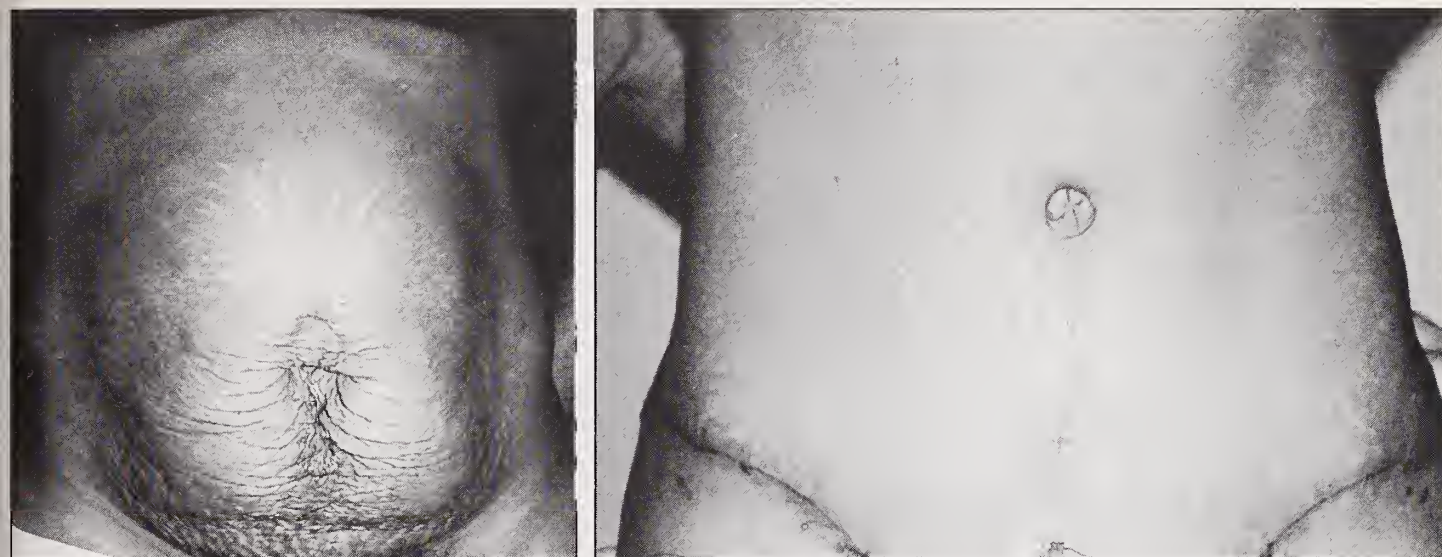


Figure 2A-D. Abdominoplasty. (A-Top Left) Preoperative frontal view; (B-Top Right) postoperative frontal view; (C-Bottom Left) preoperative lateral view; (D-Bottom Right) postoperative lateral view.

not improve surface irregularities, and as such depended on good skin quality for success.^{2,16,18} Surgical contouring procedures had limitations such as long incisions, wide undermining, lengthy recovery, and occasionally severe complications.^{2,19,20}

It was in trying to limit each approach's liabilities that a merging of the techniques occurred, allowing them to be utilized together in a complimentary fashion. Consequently, we have now entered an era of refinement in body contouring where we have the means to effectively adjust skin and fat, independently or concomitantly. Rather than adapt the patient to the available procedures, we can now adapt our surgical approach based on a detailed assessment of the patient's presenting deformity.

Current Techniques

The distribution of body fat and resultant body contour is governed not only by sex and heredity but also by factors such as age, weight gain or loss, and pregnancy.^{3,16,17,21} Certain anatomic areas are most vulnerable to these factors, and the current plastic surgical techniques to correct these areas will be discussed.



Abdomen

Of the traditional surgical contouring procedures, abdominoplasty is the most frequently performed.¹ Yet abdominoplasty today is not a singular operation but rather a spectrum of operations. While the traditional abdomi-



noplasty with its long transverse incision and rectus muscle plication may be necessary for the correction of a large panniculus and rectus diastasis (Figures 2A-D), lesser deformities can now be treated with a more individualized approach combining modified traditional ab-



Figure 3A-D. Abdominal liposuction. (A-Top Left) Preoperative frontal view with surgical markings; (B-Top Right) long-term postoperative frontal view; (C-Bottom Left) preoperative lateral view; (D-Bottom Right) postoperative lateral view.



dominoplasty techniques with liposuction.

Selection of the appropriate surgical approach begins with the evaluation of the patient's bony and soft tissue framework. The configuration and relative distance between the ribs and the pelvis determines the overall abdominal shape (i.e., long-waisted vs. short-waisted). Such features must be noted, for an hourglass shape cannot be created on a short-waisted, square-shaped abdomen.²² Addi-

tionally, the skin, fat, muscle, and intra-abdominal contents all exert an influence on the abdomen's shape, and each of these components must be evaluated, too. A classification system, based on soft tissue findings, has been utilized to determine the most appropriate surgical approach (Table 1).²³

Patients with varying degrees of abdominal lipodystrophy but without significant skin or muscle laxity make up Category I and can be treated with liposuction alone. The

amount of lipodystrophy that can be treated without skin adjustment is obviously a function of skin quality (Figures 3A-D).

Category II patients have their deformity confined to the lower abdomen with a mild excess of skin, fat, and/or muscle laxity. These patients can be treated through a short transverse suprapubic incision which gives access for plication of any lower musculoaponeurotic laxity, abdominal liposuction, and the adjustment of mild skin ex-

cess²⁴ (Figures 4A-D). Most frequently, these patients, like those in Category I, can be operated upon as outpatients.

The modified abdominoplasty is the treatment of choice for the Category III patient. This patient can manifest changes throughout the abdomen, frequently having mild to moderate skin laxity above, as well as, below the umbilicus. Muscle flaccidity is also more significant than in Category II or can present in the supraumbilical area. Through a lower transverse skin crease incision restricted to within the anterosuperior iliac spines, this approach provides access to all of the lower and even some of the upper abdomen to allow for muscu-

loaponeurotic plication, complete abdominal liposuction, and varying degrees of skin resection.

Category IV patients present with significant skin excess and muscle laxity and are candidates for standard abdominoplasty (Figures 2A-D).^{6,7} Lipoplasty can also be performed at this time as well as other adjustments, such as transverse musculoaponeurotic plication²⁵ or the advancement and suturing of the external oblique aponeurosis to the rectus fascia (which has the effect of narrowing the waist) (Figures 5A-B).^{26,27} These maneuvers can be important, for while vertical rectus muscle plication flattens the abdomen by reducing the anterior arch of the abdomen, it does not

narrow the waistline.

Thighs, Hips, and Buttocks

A peculiarly problematic area for many females, the thighs have even been shown to represent differences in the metabolism of fatty deposits, synthesizing more rapidly and mobilizing more slowly, when compared to other locations.²¹ Perhaps it is not surprising then that one of the earliest body contouring procedures reported described a thigh lift.⁴ However, just as suction lipectomy altered our approach to abdominal body contouring, liposuction has exerted an even more profound effect on the treatment of deformities of the medial and lateral thighs. While skin redundancy

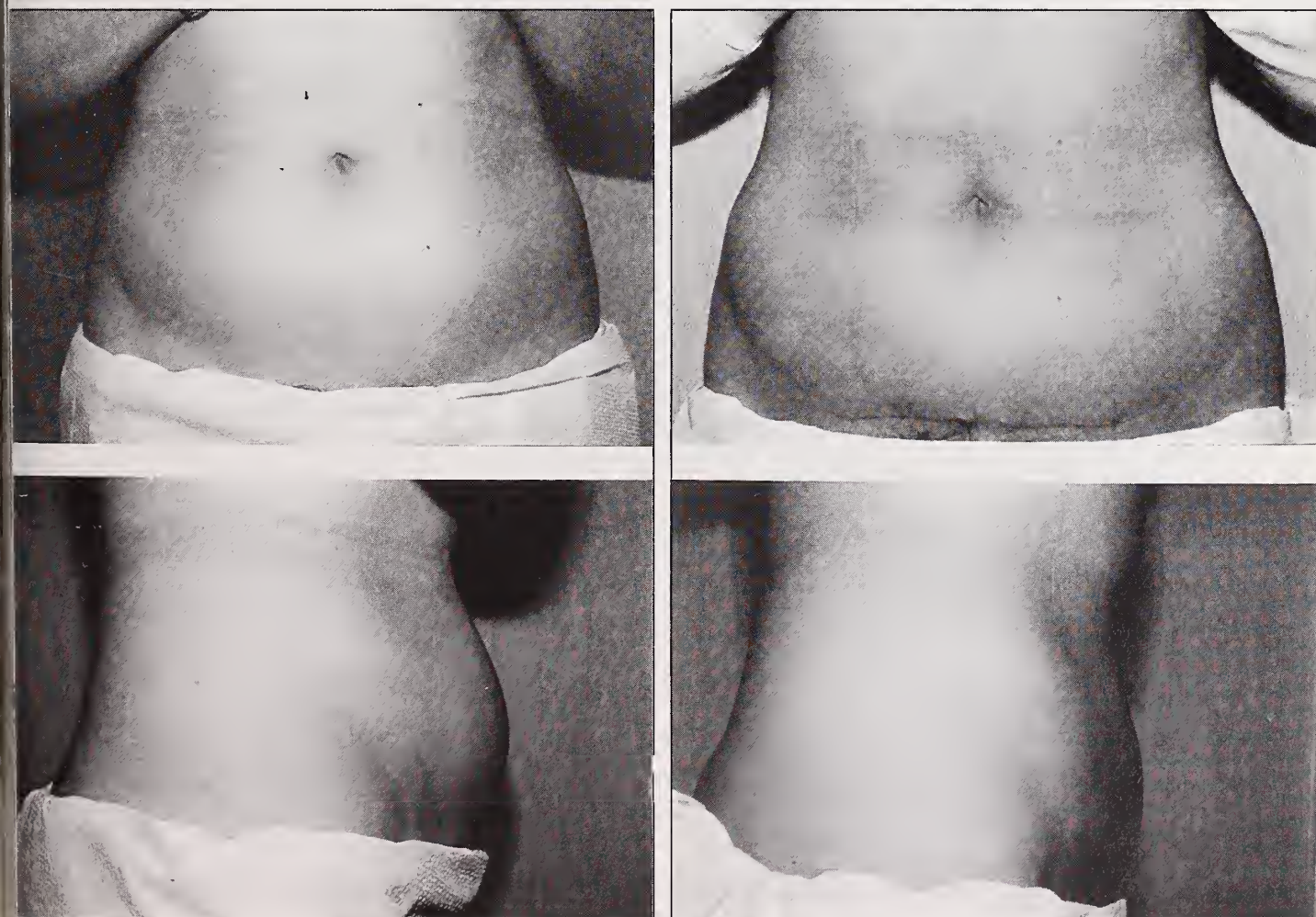
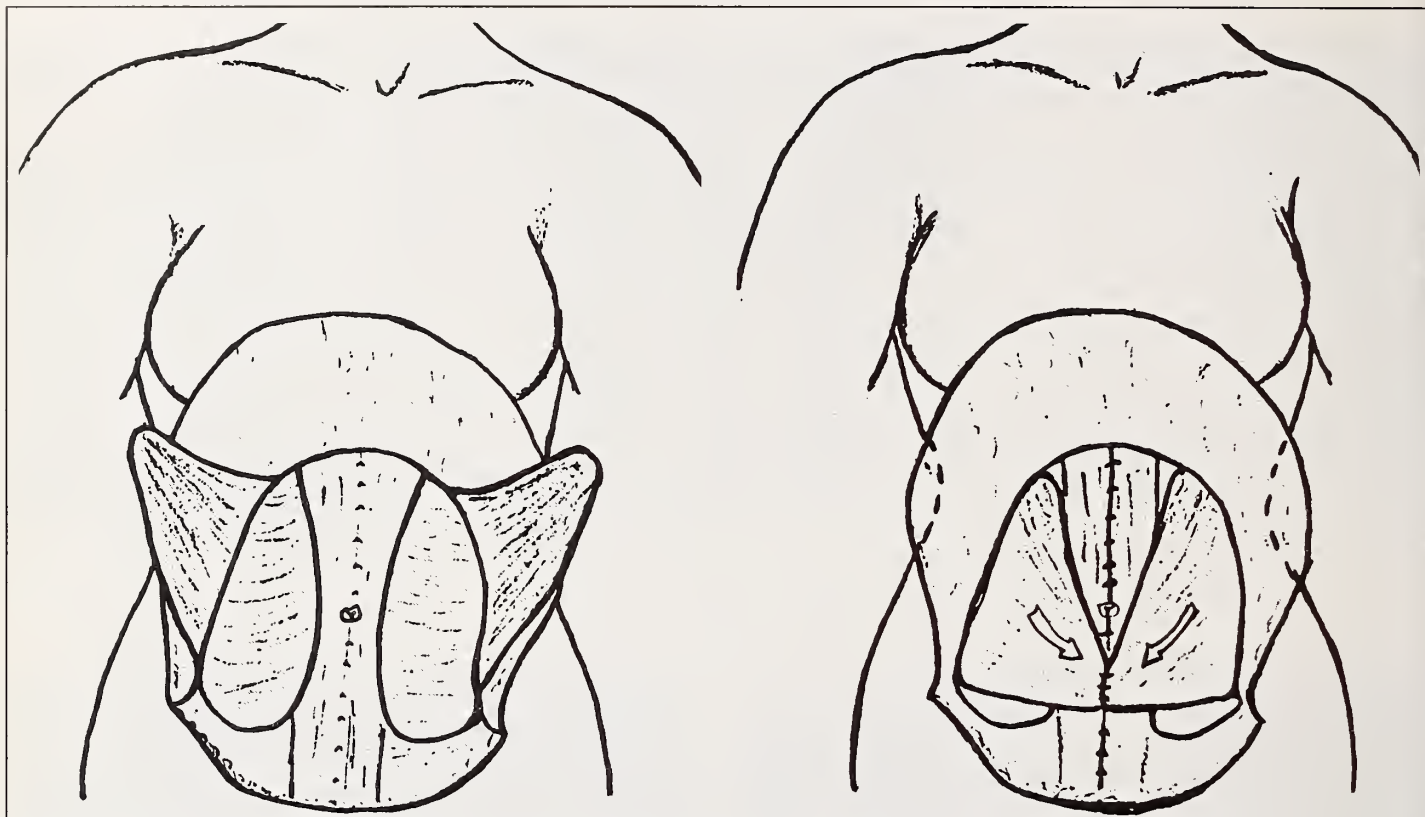


Figure 4A-D. Mini Abdominoplasty. (A-Top Left) Preoperative frontal view; (B-Top Right) postoperative frontal view; (C-Bottom Left) preoperative lateral view; (D-Bottom Right) postoperative lateral view.



Figures 5A-B. External oblique aponeurosis advancement; (Right) note effect on waist.

or laxity can also be a component of this regional deformity, a localized fatty redundancy is almost always present. This region was the most common area treated by plastic surgeons with liposuction last year — liposuction outnumbering thighplasty more than 35 to 1.²¹ Suction is also the preferred way to

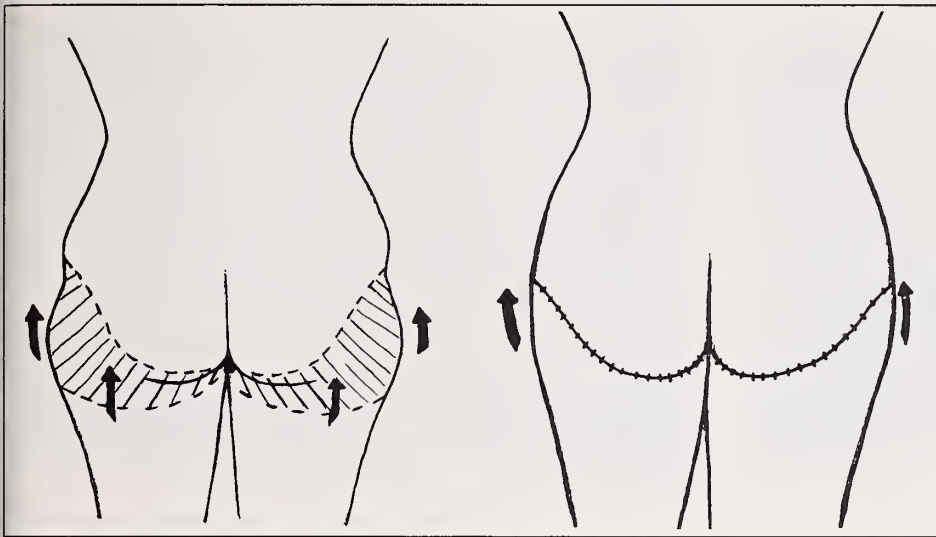
handle hip lipodystrophy.^{13,16,17}

A detailed evaluation of not just the “problem area” but the patient’s entire body is necessary to determine the most effective treatment plan. One should note not only fat distribution, skin quality, and bony abnormalities which may create or accentuate asymmetries,

but also any associated vascular abnormalities or the presence of lymphedema. A moderately thin young patient with good skin tone represents the best candidate for treatment by liposuction alone (Figures 6A-B). Cellulite or surface irregularities, if present, should be brought to the patient’s attention,



Figures 6A-B. Trochanteric lipodystrophy (riding breeches deformity) treated with liposuction. (A-Left) Preoperative frontal view; (B-Right) postoperative frontal view.



Figures 7A-B. Thighplasty. (Left) Preoperative posterior view, shaded area to be resected. (Right) postoperative posterior view, lower skin flap has been advanced.

for while these findings are not a contraindication to liposuction, they will be as noticeable, and possibly even more so after surgery.

In addition to careful patient selection, other aids can enhance the likelihood of success.²⁸ Preoperative marking done in a topographic map fashion while the patient is standing will be of great assistance during surgery. Checking the amount of redundant fat with the muscles relaxed and then contracted helps insure that the "bulges" are not coming from other causes. Making an estimate of the volume of fat to be removed is also helpful for it will serve as a way to prevent over or under correction. Additionally, as approximately $\frac{1}{3}$ of the volume removed is blood, this estimate helps in planning for fluid and possible blood replacement.^{16,18}

While suction lipectomy can be performed on older patients who manifest moderate skin laxity, marked skin redundancy will necessitate skin correction surgery. This is particularly true in the medial thigh area where skin tone is frequently lacking. Conventional resection techniques here utilize a curvilinear skin ellipse in the medial groin crease, but results can be



Figures 8A-B. Thighplasty. (Left) Preoperative posterior view; (Right) postoperative posterior view.



compromised by recurrence, deformity of the external genitalia secondary to excessive skin flap tension, and scars that migrate into visible areas. Recently, it has been suggested that attaching both the superior and inferior medial groin skin flaps to Coles' fascia at the perineal-thigh junction can prevent these problems.²⁹

Pitanguy described a lateral thighplasty to lift thigh and buttock and allow access for the treatment of trochanteric lipodystrophy.⁵ He utilized a gluteal fold incision that extended into the hip region later-

ally (Figures 7A-B, 8A-B). Grazer, however, objected to the lateral extent of the scar, and proposed a similar procedure which placed the incision more medially, overlying the buttock to keep it out of visible areas.³

The problem with these procedures, however, is that, like all cosmetic procedures that attempt to fight the effects of gravity, they do not provide a permanent correction. While recurrences usually can be treated by reoperation, the occasional resultant late deformity may be quite severe (Figure 9).

Several modifications of primary procedures and a number of secondary procedures have evolved in



Figure 9. Thighplasty. Postoperative deformity.

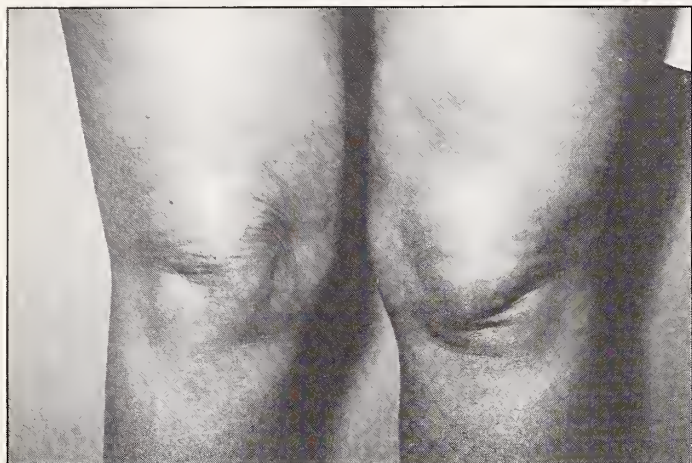
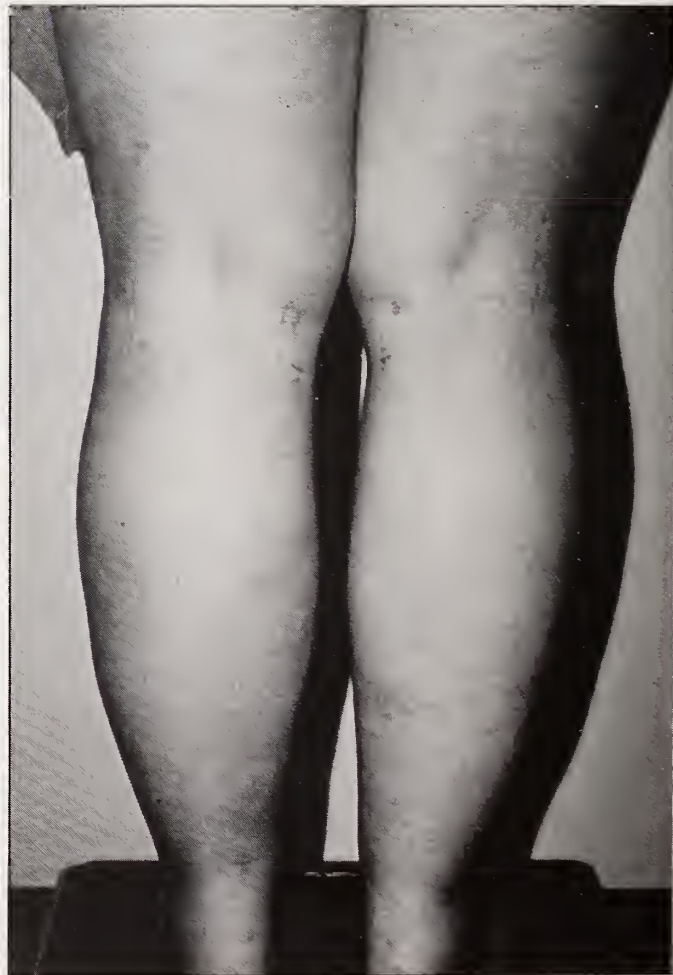
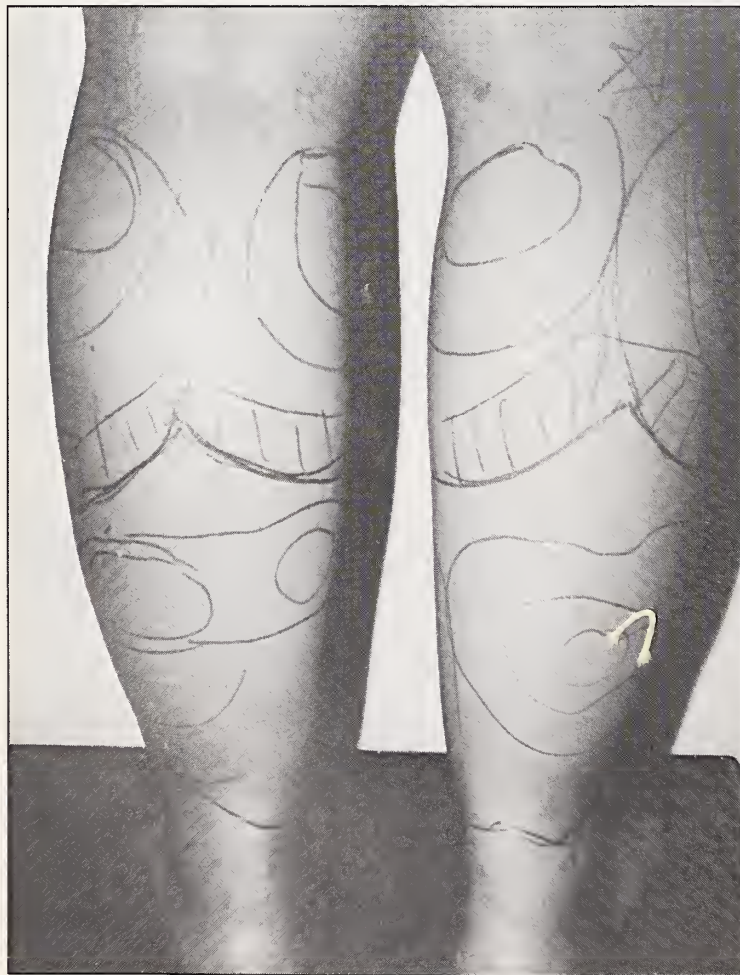


Figure 10. Lipodystrophy of the knees, treated with liposuction. (A-Left) Preoperative frontal view; (B-Right) postoperative frontal view.

an attempt to prolong the duration of correction and prevent late postoperative deformities.^{2,19,20,30} Earlier this year, a thighplasty described as

a flank-thigh-buttock lift was reported by Lockwood.³¹ His technique utilizes a lateral transverse skin-fat wedge resection with place-

ment of the resection in such a way that the resultant scar lies transversely approximately at the level of the antero-superior iliac spine.



Figures 11A-B. Lipodystrophy of the calves and ankles treated with liposuction. (A-Left) Preoperative posterior view with surgical markings; (B-Right) postoperative posterior view.

Closure incorporates the subcutaneous fascia which Lockwood feels may prolong correction by providing additional support.

Knees, Calves, and Ankles

Lipodystrophy presenting in these areas is best treated with suction lipectomy. As with other regions, complete evaluation and careful patient selection will determine those patients who can best be helped by this procedure. The technique, though more difficult and exacting in this region, is similar to that used in other locations.³² While the results are often not as dramatic, the resolution of swelling and bruising slow, and the recovery more prolonged than other body regions, successful contour adjustments can be satisfactorily accomplished (Figures 10A-B, 11A-B).

Arms

Both conventional skin resection techniques as well as suction lipectomy can be utilized in the treatment of upper arm deformities. The choice is obviously determined by the deformity present. Liposuction is performed through a small incision medially near the elbow.^{13,17} Frequently though, a lipodystrophy of this region is accompanied by correction of skin redundancy. Further correction then involves elliptical resection of skin and fat from the inner aspect of the arm.^{2,3} The resultant scar is closed as a straight line either with or without a small Z-plasty in the axillary area.

With the evolution and melding of liposuction and the more traditional techniques of resection, a new era of refinement has begun in the area of body contouring. With more recent tech-

Cellulite or surface irregularities should be brought to the patient's attention, for while these findings are not a contraindication to liposuction, they will be as noticeable, and possible even more so, after surgery.

niques available, much can now be accomplished. Lesser deformities, which in the past were not operable because of the resultant scars, can now be corrected. With the refined techniques of anesthesia and surgery, more areas can often be corrected during the same operative time. Baroudi³⁰ even utilizes a surgical team if necessary to maximize the number of areas that can be operated and yet keep anesthesia time to a minimum. As a result of the enlarged scope of these procedures, a resurgence of interest in body contouring is occurring among both patients and plastic surgeons.

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*I see the swirl that sudden gusts deploy
Like mellow lute notes from some shepherd boy,
And glean the richer shades and autumn hues
October's artists mingled to diffuse
And gild the hedgerow, set the hills aflame,
And put all human artistry to shame.
I still feel an excitement in the air
Which tardy summer nightingales would share
With songs of summer's surcease, leaves
descending
To golden tapestries, the sunlight blending.
As leaves that leave their harmonizing trees
Must seek their own predestined destinies,
Autumn stores her gay clothes and is gone,
And winter walks the wooded ways alone.*

COUNTIN'

*I began it as a baby, sir,
Or so the story goes.
People said, "Ain't he cute,
Countin' on his toes?"*

*Then on through the years
When I couldn't go to sleep
I counted and I counted
'Till I'd start to countin' sheep.*

*Then I got into politics
Where sins are not quite sins.
I hope to be elected,
And I counted on my friends.*

*But as I sought the last returns
I heard the newsboys shout;
The votes had all been counted
And they'd counted me plum-out!*

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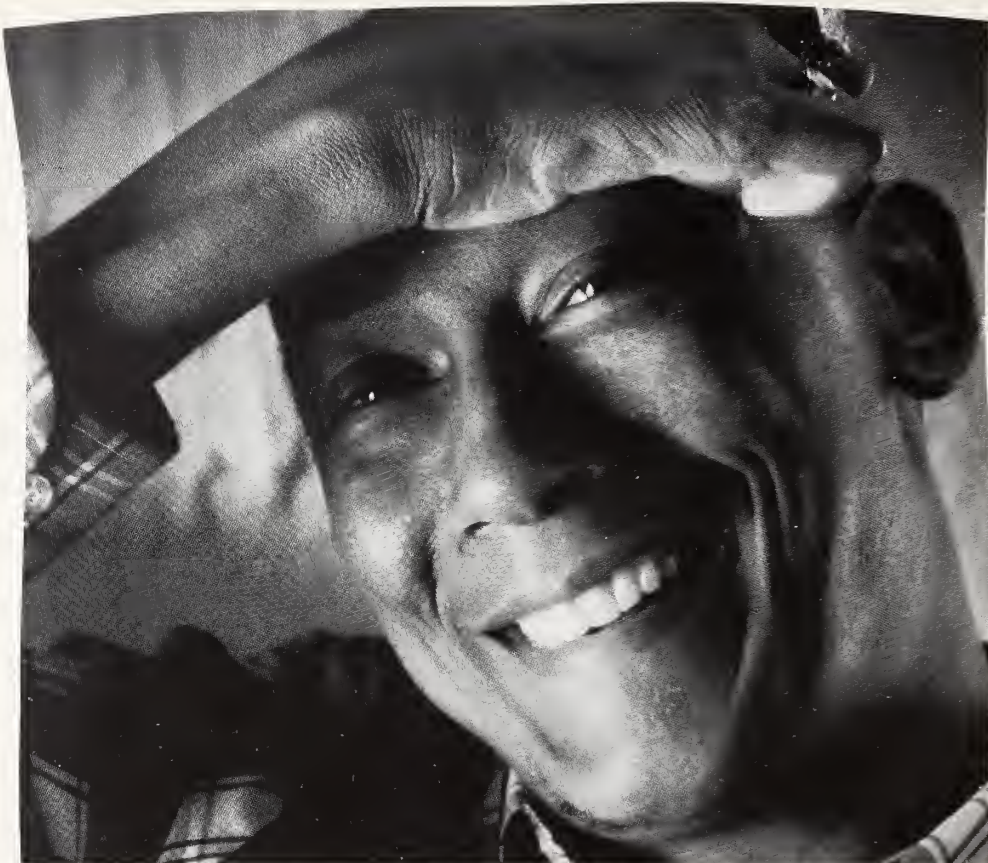
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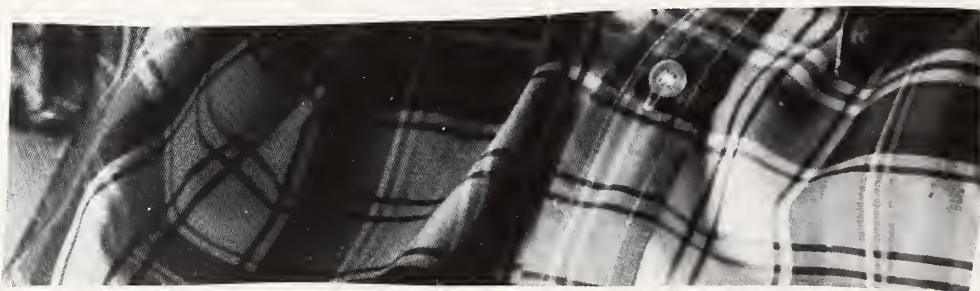
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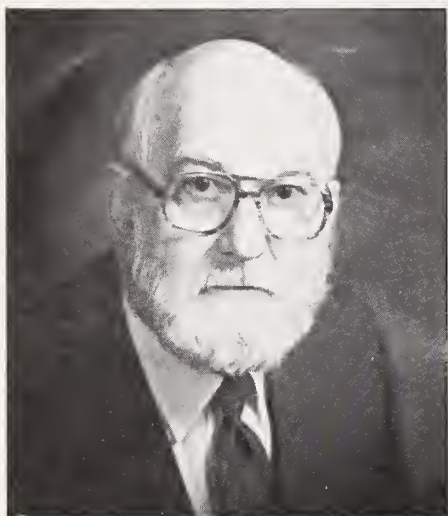
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THE COVER

Photo by Howard Sochurek, of Delray Beach, Florida.



Cyler D. Garner

AS DECEMBER is the season of good cheer, I would like to tell you about some things that have cheered me as president of the Medical Association of Georgia.

The first is a program that was organized by the Muscogee County Medical Society in Columbus last September. Four speakers were invited. Dr. Harrison Rogers of Atlanta spoke about what the AMA means to him; Dr. Alva Mayes of Macon talked about what his county society means to him; Dr. William Jones of Gainesville discussed what MAG means to him; and Jack Fox of MAG Mutual spoke about his company. I am told this program stirred up great interest among both young and old members alike. This is a program well worth repeating in county medical

societies across the state, and I want to encourage all of you to try something similar.

The second cheerful item was learning of Hall County Medical Society's active involvement and support of city-wide legislation that requires smoking sections in most public places (as opposed to only requiring non-smoking sections) and that outright bans smoking in others. This is the first such law in Georgia; only 400 other cities in the nation have passed similar legislation. I know we can't convince all people to take care of themselves, but we can make it less convenient for them to continue to damage their lungs. I understand that many of our physicians testified and worked on this new law. I won't try to list all the names, because I'm

sure to leave someone out, but rest assured that it is a pleasure to know that you are so involved in your community.

At this point, I hope that those of you from other medical societies across the state are wondering why your society's activities have not been mentioned. The problem is that too often you are doing good things but we don't hear about it. So please take a moment and let us know about your society's activities. When we share good ideas, we all benefit.

Let me finish by saying: May 1992 be a great year for both you and medicine.

Cyler D. Garner, M.D.

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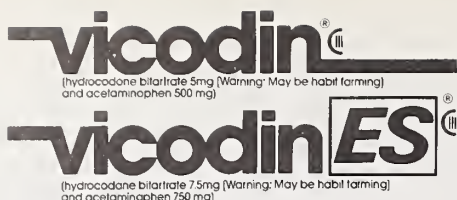
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CONTRAINDICATIONS: Hypersensitivity to acetaminophen or hydrocodone.

WARNINGS:

Allergic-Type Reactions: VICODIN/VICODIN ES Tablets contain sodium metabisulfite, a sulfite that may cause allergic-type reactions including anaphylactic symptoms and life-threatening or less severe asthmatic episodes in certain susceptible people.

Respiratory Depression: At high doses or in sensitive patients, hydrocodone may produce dose-related respiratory depression.

Head Injury and Increased Intracranial Pressure: The respiratory depressant effects of narcotics and their capacity to elevate cerebrospinal fluid pressure may be markedly exaggerated in the presence of head injury, other intracranial lesions or a preexisting increase in intracranial pressure. Furthermore, narcotics produce adverse reactions which may obscure the clinical course of patients with head injuries.

Acute Abdominal Conditions: The administration of narcotics may obscure the diagnosis or clinical course of patients with acute abdominal conditions.

PRECAUTIONS:

Special Risk Patients: VICODIN/VICODIN ES Tablets should be used with caution in elderly or debilitated patients and those with severe impairment of hepatic or renal function, hypothyroidism, Addison's disease, prostatic hypertrophy or urethral stricture.

Cough Reflex: Hydrocodone suppresses the cough reflex; as with all narcotics, caution should be exercised when VICODIN/VICODIN ES Tablets are used postoperatively and in patients with pulmonary disease.

Drug Interactions: Patients receiving other narcotic analgesics, antipsychotics, anti-anxiety agents, or other CNS depressants (including alcohol) concomitantly with VICODIN/VICODIN ES Tablets may exhibit an additive CNS depression. The use of MAO inhibitors or tricyclic antidepressants with hydrocodone preparations may increase the effect of either the antidepressant or hydrocodone. The concurrent use of anticholinergics with hydrocodone may produce paralytic ileus.

Usage in Pregnancy:

Teratogenic Effects: Pregnancy Category C. Hydrocodone has been shown to be teratogenic in hamsters when given in doses 700 times the human dose. There are no adequate and well-controlled studies in pregnant women. VICODIN/VICODIN ES Tablets should be used during pregnancy only if the potential benefit justifies the potential risk to the fetus.

Nonteratogenic effects: Babies born to mothers who have been taking opioids regularly prior to delivery will be physically dependent. The withdrawal signs include irritability and excessive crying, tremors, hyperactive reflexes, increased respiratory rate, increased stools, sneezing, yawning, vomiting, and fever.

Labor and Delivery: Administration of VICODIN/VICODIN ES Tablets to the mother shortly before delivery may result in some degree of respiratory depression in the newborn, especially if higher doses are used.

Nursing Mothers: It is not known whether this drug is excreted in human milk. Because many drugs are excreted in human milk and because of the potential for serious adverse reactions in nursing infants from VICODIN/VICODIN ES Tablets, a decision should be made whether to discontinue nursing or to discontinue the drug, taking into account the importance of the drug to the mother.

Pediatric Use: Safety and effectiveness in children have not been established.

ADVERSE REACTIONS:

The most frequently observed adverse reactions include light-headedness, dizziness, sedation, nausea and vomiting. These effects seem to be more prominent in ambulatory than in nonambulatory patients and some of these adverse reactions may be alleviated if the patient lies down. Other adverse reactions include:

Central Nervous System: Drowsiness, mental clouding, lethargy, impairment of mental and physical performance, anxiety, fear, dysphoria, psychic dependence and mood changes.

Gastrointestinal System: The antiemetic phenothiazines are useful in suppressing the nausea and vomiting which may occur (see above); however, some phenothiazine derivatives seem to be antianalgesic and to increase the amount of narcotic required to produce pain relief, while other phenothiazines reduce the amount of narcotic required to produce a given level of analgesia. Prolonged administration of VICODIN/VICODIN ES Tablets may produce constipation.

Genitourinary System: Ureteral spasm, spasm of vesical sphincters and urinary retention have been reported.

Respiratory Depression: Hydrocodone bitartrate may produce dose-related respiratory depression by acting directly on the brain stem respiratory center. Hydrocodone also affects the center that controls respiratory rhythm, and may produce irregular and periodic breathing. If significant respiratory depression occurs, it may be antagonized by the use of naloxone hydrochloride. Apply other supportive measures when indicated.

DRUG ABUSE AND DEPENDENCE:

VICODIN/VICODIN ES Tablets are subject to the Federal Controlled Substance Act (Schedule III). Psychic dependence, physical dependence, and tolerance may develop upon repeated administration of narcotics; therefore, VICODIN/VICODIN ES Tablets should be prescribed and administered with caution.

OVERDOSAGE:

Acetaminophen Signs and Symptoms: In acute acetaminophen overdosage, dose-dependent, potentially fatal hepatic necrosis is the most serious adverse effect. Renal tubular necrosis, hypoglycemic coma, and thrombocytopenia may also occur. Early symptoms following a potentially hepatotoxic overdose may include: nausea, vomiting, diaphoresis and general malaise. Clinical and laboratory evidence of hepatic toxicity may not be apparent until 48 to 72 hours post-ingestion.

Hydrocodone Signs and Symptoms: Serious overdose with hydrocodone is characterized by respiratory depression (a decrease in respiratory rate and/or tidal volume, Cheyne-Stokes respiration, cyanosis), extreme somnolence progressing to stupor or coma, skeletal muscle flaccidity, cold and clammy skin, and sometimes bradycardia and hypotension. In severe overdosage, apnea, circulatory collapse, cardiac arrest and death may occur.

YOCON®

YOHIMBINE HCl

Description: Yohimbine is a 3a-15a-20B-17a-hydroxy Yohimbine-16a-carboxylic acid methyl ester. The alkaloid is found in Rubaceae and related trees. Also in Rauwolfia Serpentina (L) Benth. Yohimbine is an indolalkylamine alkaloid with chemical similarity to reserpine. It is a crystalline powder, odorless. Each compressed tablet contains (1/12 gr.) 5.4 mg of Yohimbine Hydrochloride.

Action: Yohimbine blocks presynaptic alpha-2 adrenergic receptors. Its action on peripheral blood vessels resembles that of reserpine, though it is weaker and of short duration. Yohimbine's peripheral autonomic nervous system effect is to increase parasympathetic (cholinergic) and decrease sympathetic (adrenergic) activity. It is to be noted that in male sexual performance, erection is linked to cholinergic activity and to alpha-2 adrenergic blockade which may theoretically result in increased penile inflow, decreased penile outflow or both.

Yohimbine exerts a stimulating action on the mood and may increase anxiety. Such actions have not been adequately studied or related to dosage although they appear to require high doses of the drug. Yohimbine has a mild anti-diuretic action, probably via stimulation of hypothalamic centers and release of posterior pituitary hormone.

Reportedly, Yohimbine exerts no significant influence on cardiac stimulation and other effects mediated by B-adrenergic receptors, its effect on blood pressure, if any, would be to lower it; however no adequate studies are at hand to quantitate this effect in terms of Yohimbine dosage.

Indications: Yocon® is indicated as a sympathicolytic and mydriatic. It may have activity as an aphrodisiac.

Contraindications: Renal diseases, and patient's sensitive to the drug. In view of the limited and inadequate information at hand, no precise tabulation can be offered of additional contraindications.

Warning: Generally, this drug is not proposed for use in females and certainly must not be used during pregnancy. Neither is this drug proposed for use in pediatric, geriatric or cardio-renal patients with gastric or duodenal ulcer history. Nor should it be used in conjunction with mood-modifying drugs such as antidepressants, or in psychiatric patients in general.

Adverse Reactions: Yohimbine readily penetrates the (CNS) and produces a complex pattern of responses in lower doses than required to produce peripheral a-adrenergic blockade. These include, anti-diuresis, a general picture of central excitation including elevation of blood pressure and heart rate, increased motor activity, irritability and tremor. Sweating, nausea and vomiting are common after parenteral administration of the drug.^{1,2} Also dizziness, headache, skin flushing reported when used orally.^{1,3}

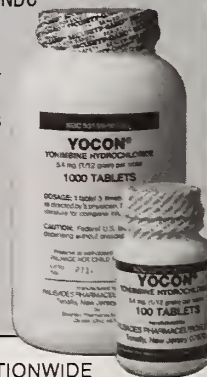
Dosage and Administration: Experimental dosage reported in treatment of erectile impotence.^{1,3,4} 1 tablet (5.4 mg) 3 times a day, to adult males taken orally. Occasional side effects reported with this dosage are nausea, dizziness or nervousness. In the event of side effects dosage to be reduced to 1/2 tablet 3 times a day, followed by gradual increases to 1 tablet 3 times a day. Reported therapy not more than 10 weeks.³

How Supplied: Oral tablets of Yocon® 1/12 gr. 5.4 mg in bottles of 100's NDC 53159-001-01 and 1000's NDC 53159-001-10.

References:

1. A. Morales et al., New England Journal of Medicine: 1221, November 12, 1981.
2. Goodman, Gilman — The Pharmacological basis of Therapeutics 6th ed., p. 176-188. McMillan December Rev. 1/85.
3. Weekly Urological Clinical letter, 27:2, July 4, 1983.
4. A. Morales et al., The Journal of Urology 128: 45-47, 1982.

Rev. 1/85



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Why A Collective Review

John E. Skandalakis, M.D., Ph.D., F.A.C.S.

"The eyes of Zeus see and know everything."

HESIOD

WHEN I WAS a resident, I performed an autopsy on a patient with a giant leiomyosarcoma of the stomach. This was my first experience with a malignant smooth muscle tumor of the gastrointestinal (GI) tract. The literature consisted at that time, in 1956, of scattered reports about leiomyomas and leiomyosarcomas, and I decided to collect all these tumors and present them in the form of a monograph. I collected 2525 cases from all over the world, and together with my alter ego, Dr. Stephen Gray, wrote a book under the title, *Smooth Muscle Tumors of the Alimentary Tract*, which was published in 1962.¹

They say that, statistically, a book is good for only 5 years. Despite the fact that this is the only book with such a collection of cases, few authors in recent times mention this work; therefore, this research is, for all practical purposes, lost. For example, two papers of gastric leiomyosarcoma were recently reported: one by Grant et al. (*Arch Surg* August, 1991) and the other by Khalil (*Surg Rounds* August, 1991). No one referred to the book, the only book about benign and malignant smooth muscle tumors of the GI tract, published approximately 30 years ago. From time to time, we published collective reviews of the

‘As far as I know, this is the only collective review of smooth muscle tumors of the colon and anorectum, benign and malignant.’

esophagus, stomach, and small bowel, but not such a review of the colon and anorectum. This is the primary reason for the publication of this collective review. As far as I know, this is the only collective review of smooth muscle tumors of the colon and anorectum, benign and malignant. From now on, the medical professional interested in such neoplastic formation must read this issue of the *Journal of the Medical Association of Georgia*.

Why a collective review? A carefully written collective review is a storehouse of informa-

tion for a certain problem. The investigator collects all possible published data and with careful analysis, dissects in a systematic way, compares information with other published cases, and, finally, summarizes the total product. This summary gives useful advice to the practicing physician, to the future investigator, and to the person in the laboratory for further research. It provides, as George T. Pack and Irving M. Ariel once advised, "to appraise the problem and estimate the accomplishments."²

History, embryology, anatomy, biology, biochemistry, physiology, pathology, surgical technique, biostatistics, and many other branches of clinical and experimental medicine mingle together in a synergistic way, producing new data after very critical analysis. These data will help the doctor perform good work and enable the patient, as one of my former professors once said, "to be able to bypass the Acherousian Lake and to enter life again full of hope."³

A collective review will present several paradoxes and it will help, perhaps, to understand some of them, to explain some of them, and finally, to enable the investigator to take them to the laboratory with hopes and dreams and an understanding of the problem and thought of a possible solution. I do believe that a collective review is the stimulation for the research of tomorrow.

Dr. Skandalakis is Chris Carlos Distinguished Professor and Director of the Thalia and Michael Carlos Center for Surgical Anatomy and Technique, Emory University.

Address reprint requests and correspondence to him at Centers for Surgical Anatomy and Technique, Emory University School of Medicine, 1462 Clifton Rd., Suite 303, Atlanta, GA 30322.

There are some repetitions in the two review articles. As the guest editor, I apologize to the readers, but I thought the minimal repetition would make the continuity of the subject matter smooth and simple. It is difficult to write about the same subject for almost identical anatomic entities but different embryologically, clinically, and surgically. Perhaps the future investigator will appreciate our effort.

All of us want to express our deep appreciation and gratitude to the *Journal's* Dr. Charles Underwood and Ms. Susan Johnson for their wonderful cooperation and their willingness to support such a project. Perhaps our friend Dr. Underwood would agree with T.K. Whipple when he said, "what

they dreamed, we lived, and what we lived, we dream."⁴

‘A collective review gives useful advice to the practicing physician, the future investigator, and the person in the laboratory for further research.’

We dedicate this issue to our new friend, Dr. Bill Wood, surgical oncologist, the new chair-

man of the Department of Surgery at the Emory University Medical School. As F. Bacon once stated, "*Ye that will not apply new remedies must expect new evils, for time is the greater innovator.*" Who knows? Perhaps in the near future we will be able to take better care or to cure the patients with leiomyosarcoma.

References

1. Skandalakis JE, Gray SW, Shepard D, Bourne GH. Smooth Muscle Tumors of the Alimentary Tract. Springfield, IL: Charles C. Thomas, 1962.
2. Pack GT, Ariel IM. A half century of effort to control cancer. In: Davis L, ed. Fifty Years of Surgical Progress. Chicago: The Franklin H. Martin Memorial Foundation, 1955.
3. DeCharme P. Greek Mythology. Athens, Greece: Giovanis, p 31.
4. Whipple TK. Epigram. In: Lonesome Dove. McMurtry L, Simon and Schuster, 1985.

Dear Mr. Berg:

RE: February, 1991, *JMAG* Legal Page, "Georgia Supreme Court Strikes Down 'Wrongful Birth, Action,'" by Robert N. Berg

My interest in your article was based on two concerns. First, I am interested in morality and conducting my profession in an ethical manner, and second, I am asked to analyze and recommend positions on proposed legislation in this area.

In my opinion, the court erred in not identifying the proper injury and cause of action. The injury is to the parents who contracted with the expert physician to provide them information about their pregnancy so that they could make informed decisions, i.e., exercise their right to self determination, with respect to termination of the pregnancy. At that point, the moral value of the parents and their rights are superior to those of the fetus, who is only a potential person. The physician did not cause the genetic injury to the child, but that is not the injury for which compensation was sought. The injury to the parents is the birth of a defective child. With respect to causation, it is clear the physician caused the injury, "wrongful birth," by not providing the parents with information that could have prevented the injury. This was the proper and legitimate cause of action. . . .

The basic change needed is in education. There is a growing body of knowledgeable people who are reevaluating the sanctity and supremacy of life. These people insist that the quality of life is a critical consideration. In this context, some people would be better off never to have been born. Existence itself is an injury. There needs to be acceptance of this as a valid position by the law.

Wrongful pregnancy, it would appear in the *Ableson* case, is not a valid claim. The *Abelsons* were

pregnant when they sought care. They were not seeking the physician's services to avoid an unwanted pregnancy. They apparently wanted to be pregnant and to have a normal child.

Wrongful life is more difficult. A person who is informed, rational, and competent, who reaches the conclusion that life is an unbearable burden should have cause of action for wrongful life against any person whose action causes his continual existence or prevents him from termination of his existence. The fetus, however, is not competent. No one can know if any particular fetus that is allowed to go to term and experience life would decide that it is unbearable and elect not to be born. In the absence of competency, someone will have to decide for the fetus. Who should it be? The judges of the court? The legislature of Georgia? I think not. For a variety of reasons, the family and most especially the mother is the best person to decide for the fetus. Therefore, in this instance, a case could be made for wrongful life on behalf of the child. However, an argument could be made to enjoin such action if the child is expected to become competent, for the child must agree with the cause of action to sustain it.

One argument against wrongful life is that a child or the child's agent, could sue its parents if they made the wrong decision and allowed the child to be born and live an unbearably low quality life. This argument is rebutted by prohibiting recovery unless it can be shown that the parents acted irresponsibly and unreasonably given the circumstances under which the decision was made. The plaintiffs would also have to prove that the quality of the child's life was or could reasonably be found to be unbearably low, i.e., that the person has truly suffered a compensable injury.

Another argument cited by the court in this case was that it could not structure a remedy which adequately compensated the child without unduly penalizing the defendant doctor. The minority dissent, however, is clearly right. The award should be for lifetime but cover only the extraordinary expenses incurred because of the deformity or disability as determined by the court.

Thank you for your publication and your interest.

Sincerely,
George C. Cunningham, M.D.
Chief
Genetic Disease Branch
Department of Health Services
Berkeley, CA

Dear Editor,

I just received the September *Journal* and want to thank you for your editorial "Of Youth and the Future — Of Attention." I think you did a very fine job with this, and if I ever get caught up, I hope to send you an editorial of the same issues from a young (almost middle-aged) surgeon's viewpoint.

Sincerely,
Charles M. Ferguson, M.D.
Surgeon, Boston
Mass. Gen. Hospital

Dear Editor,

Having just read your editorial "Of Consistency and Of Honor" in the October issue of the *Journal*, I want to be among the earlier souls (?) to offer comment. With no illusions that my opinion counts for anything, one way or the other, you must be told that I agree with you 100%, backwards, forwards, and in the middle!

Probably you will not recall an occasion when our Board of Directors, then considering the formation of *MAG* Mutual, were advised (and entertained) by our counterparts from Alabama, who already

had a malpractice insurance company of some kind, and had been invited to our meeting. At one time I attempted to point out the need to stop some of the outrageous acts by some members of our profession, having evidently misinterpreted a remark by the speaker which sounded (to me) as if he felt that was a concern. I was informed in no uncertain terms that he believed there was VERY, VERY LITTLE actual medical malpractice, and then we were subjected to more irate comments concerning lawyers and people who use them to "get something for nothing."

Another time, a patient had obviously been neglected and suffered bad results therefrom, but I knew full well I should not be called as an expert witness, due to the specialty involved, plus the fact that I had not treated or even professionally examined the patient prior to the time I was asked for advice. I asked a friend who was certified in that field of practice what his feeling would be, if requested to examine the patient and testify regarding his findings, and his answer was somewhat along the line of your excellent editorial. Then I mentioned the doctor's name, and it was all over! It seems the negligent physician had assisted him a bit in starting his practice, covered for him when he had to be away during the first year he was in practice, and no matter how negligent he might be — and he did not doubt it — there would be no adverse testimony from that physician!

When Dr. Bill Logan became President of MAG, he said "We've GOT to do something about those bad doctors!" Dead silence. When Dr. Charles Hollis was President of MAG, he wrote of our many obligations to patients, and our having to recognize that we are "on call" at all times. I never heard anyone express agreement with his views.

You are in an unpopular area, as

I feel sure you are aware. I am glad that you did it anyway. Please do me a favor and let me know, after a month or 6 weeks, whether anyone actually takes issue with you as to the situation which you address, or if they just seem a little less friendly than previously.

With best wishes, I remain

*Sincerely yours,
Rupert H. Bramblett, M.D.
Family Practice, Cumming*

Dear Editor,

The October '91 issue of the *Journal of the Medical Association of Georgia* is a real coup for pulmonary medicine and all those who are part of the Georgia Thoracic Society (GTS).

We at GTS appreciate the opportunity to contribute to this focus on some very serious issues related to lung disease. We take pleasure in seeing these articles and pride in our colleagues and the work their articles represent toward eliminating these diseases.

Please call upon us again when your editorial interests provide other opportunities for our input.

Best wishes for the continued success of your publication.

*Sincerely,
Drayton M. Sanders, M.D.,
President
Georgia Thoracic Society*

Dear Editor,

I would like to respond to an article published in the October, 1991, *Journal of the Medical Association of Georgia* entitled "Obstructive Sleep Apnea Syndrome." I commend Dr. Chaudhary and Dr. Smiths' article, recognizing the widespread occurrence of this disorder, highlighting its prevalence and occurrence in the general population.

Obesity, only briefly mentioned, needs to be recognized as the most prevalent, concurrent disorder encountered in sleep apneic individuals. It must be emphasized that the

successful reduction of body mass index represents the single most effective method of long term control of sleep apneic episodes in most individuals. Quoting from Dr. Chaudhary and Smiths' article, "80% of the patients with sleep apnea are overweight." The initiation of treatment of sleep apnea should include a medically supervised weight reduction. This should be a fundamental in the initial approach to treatment of this disorder.

Certainly, tracheostomy, uvulopalatoplasty, and other relatively invasive procedures should be held in distant reserve, pending a significant attempt at lowering body mass index.

With regard to the fourteen deaths occurring in the "advise weight loss only" group involved in this study, it is necessary to isolate and recognize the significant morbidity and mortality factors associated with an obese population which tend to confound the data derived from this group. It is important that obesity be evaluated as an independent risk factor regarding this group.

*Sincerely,
Lonny E. Horowitz, M.D.
Bariatrics, Dunwoody*

Dear Dr. Honig,*

I would like to congratulate you for the splendid article for the *Journal of the Medical Association of Georgia* for this month (October). I was pleased to see an entire issue given to the pulmonary field.

Your concise assessment of pulmonary diseases, as we move into the 90s, should be helpful to all physicians in Georgia.

*Sincerely yours,
Roland S. Summers, M.D.
Vice President,
Georgia Thoracic Society*

*Dr. Honig was Guest Editor of the October Special Issue on Pulmonary Medicine.

FEBRUARY 1992

7 — *Milledgeville: Perinatal Addiction.* Category 1 credit and AAFP Prescribed credit. Contact Robert C. Fore, Ed.D., Mercer Univ. Sch. of Med., Office of CME, 777 Hemlock St., Macon 31201. PH: 912-744-1634.

10-14 — *Atlanta: Modern Methods of Diagnosing and Treating Diabetes Mellitus and Its Complications.* Category 1 credit. Contact Office of CME, Emory Univ. Sch. of Med., 1440 Clifton Rd., Atlanta 30322. PH: 404-727-5695.

17-21 — *Atlanta: MR-92-01.* Category 1 credit. Contact Office of CME, Emory Univ. Sch. of Med., 1440 Clifton Rd., Atlanta 30322. PH: 404-727-5695.

21 — *Macon: Update on Infectious Diseases.* Category 1 credit and AAFP Prescribed credit. Contact Robert C. Fore, Ed.D., Mercer Univ. Sch. of Med., Office of CME, 777 Hemlock St., Macon 31201. PH: 912-744-1634.

24-28 — *Atlanta: Modern Methods of Diagnosing and Treating Diabetes Mellitus and Its Complications.* Category 1 credit. Contact Office of CME, Emory Univ. Sch. of Med., 1440 Clifton Rd., Atlanta 30322. PH: 404-727-5695.

28-29 — *Augusta: Flexible Fiberoptic Sigmoidoscopy.* Category 1 credit. Contact Div. of Cont. Ed., MCG, Augusta 30912-1400. PH: 404-721-3967.

28-29 — *Augusta: Symposium on Pre-menstrual Syndrome.* Category 1 credit. Contact Div. of Cont. Ed., MCG, Augusta 30912-1400. PH: 404-721-3967.

MARCH 1992

2-7 — *Augusta: 27th Annual Primary Care and Family*

Practice Symposium. Category 1 credit. Contact Div. of Cont. Ed., MCG, Augusta 30912-1400. PH: 404-721-3967.

5-7 — *San Antonio, TX: Carnitine in the Clinical Setting.* Category 1 credit. Contact Div. of Cont. Ed., MCG, Augusta 30912-1400. PH: 404-721-3967.

9-13 — *Atlanta: Modern Methods of Diagnosing and Treating Diabetes Mellitus and Its Complications.* Category 1 credit. Contact Office of CME, Emory Univ. Sch. of Med., 1440 Clifton Rd., Atlanta 30322. PH: 404-727-5695.

20-21 — *Augusta: Ophthalmology.* Category 1 credit. Contact Div. of Cont. Ed., MCG, Augusta 30912-1400. PH: 404-721-3967.

20-21 — *Sea Island: ENT Conference.* Category 1 credit and AAFP Prescribed credit. Contact Robert C. Fore, Ed.D., Mercer Univ. Sch. of Med., Office of CME, 777 Hemlock St., Macon 31201. PH: 912-744-1634.

23-27 — *Atlanta: Modern Methods of Diagnosing and Treating Diabetes Mellitus and Its Complications.* Category 1 credit. Contact Office of CME, Emory Univ. Sch. of Med., 1440 Clifton Rd., Atlanta 30322. PH: 404-727-5695.

27 — *Macon: Cherry Blossom Psychiatric Conference.* Category 1 credit and AAFP Prescribed credit. Contact Robert C. Fore, Ed.D., Mercer Univ. Sch. of Med., Office of CME, 777 Hemlock St., Macon 31201. PH: 912-744-1634.

27-28 — *Macon: Cherry Blossom Pediatric Conference.* Category 1 credit and AAFP Prescribed credit. Contact Robert C. Fore, Ed.D., Mercer Univ. Sch. of Med., Office of CME, 777 Hemlock St., Macon 31201. PH: 912/744-1634.

APRIL 1992

1-3 — *Atlanta: MRN-92-01.* Category 1 credit. Contact Office of CME, Emory Univ. Sch. of Med., 1440 Clifton Rd., Atlanta 30322. PH: 404-727-5695.

6-10 — *Modern Methods of Diagnosing and Treating Diabetes Mellitus and Its Complications.* Category 1 credit. Contact Office of CME, Emory Univ. Sch. of Med., 1440 Clifton Rd., Atlanta 30322. PH: 404-727-5695.

20-24 — *Atlanta: Modern Methods of Diagnosing and Treating Diabetes Mellitus and Its Complications.* Category 1 credit. Contact Office of CME, Emory Univ. Sch. of Med., 1440 Clifton Rd., Atlanta 30322. PH: 404-727-5695.

23-26 — *Atlanta: International Pain Symposium.* Category 1 credit. Contact Div. of Cont. Ed., MCG, Augusta 30912-1400. PH: 404-721-3967.

24 — *Macon: Day of Internal Medicine.* Category 1 credit and AAFP Prescribed credit. Contact Robert C. Fore, Ed.D., Mercer Univ. Sch. of Med., Office of CME, 777 Hemlock St., Macon 31201. PH: 912-744-1634.

25-26 — *Augusta: Pathology Symposium.* Category 1 credit. Contact Div. of Cont. Ed., MCG, Augusta 30912-1400. PH: 404-721-3967.

23-25 — *Atlanta: Memory and Awareness in Anesthesia.* Category 1 credit. Contact Office of CME, Emory Univ. Sch. of Med., 1440 Clifton Rd., Atlanta 30322. PH: 404-727-5695.

27-2 May — *Augusta: 27th Annual Family Practice Symposium.* Category 1 credit. Contact Div. of Cont. Ed., MCG, Augusta 30912-1400. PH: 404-721-3967.

American Medical Association

Physicians dedicated to the health of America



For Your Benefit

Materials included are excerpted from *Member Matters*, a monthly publication sent to all members of the American Medical Association. *For Your Benefit* is provided by the American Medical Association.

AMA Victorious on AIDS Amendments

The American Medical Association scored three significant victories against AIDS amendments that had been attached to two separate and unrelated appropriations bills that passed both the House and Senate and are awaiting the President's signature.

On the conference report to accompany H.R. 2622, the Treasury/Postal bill, the AMA defeated Senator Helms' amendment which would have mandated criminal penalties and fines for physician failure to disclose a positive HIV status when performing exposure-prone invasive procedures.

The leadership amendment to this bill was successfully modified so that state public health officials — and not state licensure authorities — will certify to the Secretary of HHS that state guidelines are in place for preventing HIV and hepatitis B transmission.

On H.R. 2608, the Commerce/Justice/State appropriations bill, conferees deleted another amendment that would have mandated that states must enact legislation or regulations on allowing patient HIV testing without informed consent and other safeguards.

AMA RBRVS Campaign Intensifies

The good news is that as a result of AMA lobbying, HCFA has agreed to restore 10% of the proposed 16% conversion factor. But, due to HCFA's intransigence on the behavioral offset issue, the AMA has intensified its legislative efforts to prevent HCFA from trimming the conversion factor by 6.5%. AMA members are urged to contact their Representatives and

Senators to ask them to support H.R. 3070 and S. 1810 which would prevent HCFA from making the 6.5% cut. H.R. 3070 would prohibit any behavioral offset and has attracted 207 House cosponsors. S. 1810 would limit a behavioral offset to a 1% reduction of which only half would be applied to the conversion factor.

AMA to Debut Family Medicine Journal

The AMA will debut in 1992 a new scientific journal for family physicians called the *Archives of Family Medicine*.

This will be the AMA's eleventh journal and the first new journal title since 1926. It will be the only peer-

reviewed, original research, association-based scientific journal that goes to all family physicians. It's the AMA response to what we see as a real need in the family medicine literature. It's what the AMA has been hearing from our members and from family physicians for many years.

Of Despair and Of Joy

Charles R. Underwood, M.D.

“So. It was over. We grew up, World War II came and went. The grandparents died. Then the aunts and uncles. The sisters and I married. We all had children. We settled into homes in the county, the sisters on The Place, almost within shouting distance of each other. Our own children were now the cousins. We stayed in our individual homes on Christmas Eve but we all descended on the Big House on Christmas Day. On Christmas Day in the morning.

The Bear Cat laughed exultantly and apprehended every arrival. “Christmas gift!” rang exultantly. Janice still said “Crimma giff!” and beat everyone but Daddy. Miss Mildred still had the tree in the parlor and we all lined up to go in, except the protocol alternated no more; it was always the youngest who got to open the door. We had Scripture, prayers, carols, and Santa Claus. In that order.

“Oh, we are blessed. Let’s don’t give each other gifts; it’s enough just to be together and love one another. Let’s remember the true meaning of Christmas. But if you are going to get me another dress this year, be sure it has long sleeves.”

Then they died. Both of them. In the house. At home. First Missa Pharaoh; the next year to the exact month, as a proper widow should, Miss Mildred. Millen was gone. . . .

Christmas dinner moved to my house. Our families grew. Our children married and had children; each

unit began staying home as it grew, establishing its own traditions. The coals from Bethlehem were shared for each hearth. The embers lived. Only Sister Sara, who has not yet been blessed with grandchildren, still eats with us and brings her brood.

Ever since the Bear Cat died, each year since Missa Pharaoh took over the family plot at Woolsey Baptist cemetery, I rise before day on Christmas morning and go there. I know them all. “Christmas gift,” I say softly into the dawn, into the silence. And then I weep, as silently as the stones.

Last year on Christmas Eve I made a date. I invited two of my grandsons, Jimbo, who was eight, and Willie Fletch, who was six, to go with me on Christmas morning.

“For what?” they said.

“To get Christmas gift on the Bear Cat,” I replied.

“Oh,” said Willie Fletch. He paused, “Sure, I’ll go.” It was a foregone conclusion he would accept any invitation that included Jimbo.

“Christmas gift?” said Jimbo. “I know about that, Sambi; it drives me crazy. Daddy’s always jumping out from some place scaring me to death and I can’t ever get it on him, no matter how hard I try.”

The sun was rising when I gathered them that morning, and it made the winter trees across the fields glow rose gold with slanted light. As we drew near Woolsey, our plans made, Jimbo spoke. “What are you

going to do if he answers you, Sambi?”

Willie Fletch was attentively silent, but his eyes got bigger.

I did not laugh. “If that happens, Jimbo, it’s every man for himself. I’ll wait for you at the creek.”

Willie Fletch’s eyes returned to their normal size and he smiled.

“Well, I should think you’d like a chance to talk to him,” Jimbo chided. “I would. I never knew him and I would sure like to visit with the Bear Cat for a while.”

“He and I had lots of visits, Jimbo, and he would have loved you boys. Remember to slip up behind the big marker and remember not to step on graves.”

We tiptoed. We bent over. We hugged the granite marker carved with “Sams, Comptom, Giles, Cole.” The boys looked at me and I nodded.

“Christmas gift!” they shrieked as they sprang around the sides and into the family plot.

“Christmas gift!” I yelled. Just as loud as I could.

The familiar tears started, but then the laughter came. “Christmas gift!” I exulted, and the boys echoed me.

Christmas Gift!
FERROL SAMS

She was young, only 18 years of age as I now recall her, when the ski boat she was driving, alone at the controls while pulling her husband at the end of the trailing

ski rope, came out of the cove, rounded the point of the island, and collided with the onrushing vessel. It was struck abeam, her little ski boat was, as the unsuspected power boat bore down upon her, struck and roared over her, thrusting the whirling propeller into her chest and upper abdomen.

They brought her to our simple little emergency room — no “Level I or Level II Trauma Center” then. No “Center” at all in fact. We were but a room or so with IV fluids and the like which looked back upon gives one pause as compared to the technologic sophistication of today’s emergency facilities.

Into that ancient and archaic environment they brought her. Pale. Pulseless. Near lifeless. We started the life sustaining blood, “whole,” undiluted, unfragmented blood it was in those days before “blood products” brought more precision to the world of transfusion. She was in the operating room quickly and the abdomen opened. The liver had been fractured. Blood rose from the depths of the fracture as water gushes from a deep spring. The debridement, the suturing, the packing proceeded until the torrent seemed to have been stilled. We stopped then and sent her to the ward only to find the next day that the terrible trickle of blood was again threatening. Two more trips to the operating room followed in the next 2 days until the major portion of her liver was resected and the hemorrhage arrested. It was then, however, too late. She left us expiring on the operating room table as the 72nd bottle of blood poured in. We stopped our frantic efforts then. Removed and discarded the blood soaked garments. Sat and talked of what could have been done differently. Then met the distraught husband, always by her side through it all, to finish the most difficult part of it. To tell him of her death.

I had not thought of her on that particular evening when I stood

on the patio, though I had spent many a restless night since that July afternoon wondering, questioning, contemplating what could have been done differently. Wondering as a child wonders as to why a leaf is red, or green, or gold. How else could the overwhelming hemorrhage have been stopped? Dare one remove more of the liver? Might we ever be able to remove it all, the liver, and replace it — transplant it? So I thought and slept with restless unease those nights following the accident.

And so it was that I stood on the cold and windy patio, cooking hamburgers. It was Christmas Eve now. The summer just past lay away from me as a mist lies gently upon the land. We lived then, the wife, the two “St. Louis children” and myself in one of those non-descript houses confined by “House and Garden plans” as well as the imagination or lack of such of those builders who place houses side by side in the look-alike neighborhoods of today. It seemed so foolish, so unimaginative to me, not to make some little condescension to our own individuality by adding a touch of something, anything, to a building, particularly a home, which says to passers by “I am a particular person.” Oh, surely, cost and practicality are real, but common sense costs nothing.

But, about the hamburgers. The wind blew cold through the little carport built closely for two small cars and in which I now stood over the charcoal fire. It was then that light from his car caught the dark of the upper driveway and from out of the dark came the man. Alone, cold in the wind of a December night, Christmas Eve. I looked upon him in that way which Southerners in times past looked upon strangers who appeared at their doorway. He carried with him a brown paper bag. The kind one obtains in the local liquor store. He came out of the dark of the little one lane driveway leading to the

narrow carport where I stood with the charcoal and the hamburgers.

“I got to thinking about you tonight, me and the kids did,” he said. I knew him now, the husband who was at the end of the ski rope. June, last summer, the ruptured liver. It all came back. He remembered it, too, what in my recollection of that past summer had become an indelible and haunting memory. He handed over the brown paper bag. “I wanted you to have this. Julie would have wanted you to have it.” I opened the bag with cautious care and looked in. A bottle, a “Fifth,” of Wild Turkey. “Christmas gift,” he said.

He left then. Up the dark drive and into the night. I thought it strange that he seemed so in control of his emotions while I fought back tears. Perhaps the tears were all gone for him. All shed far back in July when the blood was shed.

But it was Christmas Eve. The Season of Hope, be we Christian or Jew or Muslim. Or be we agnostic. Surely there is Hope regardless of our religious views. There would be hope of survival for Julie today. Surely it is a better, a more hopeful world in which we live today. We are talking to each other now — Christian and Jew and Arab.

I shall stand on the patio again this Christmas Eve. It is larger now and perhaps there will be a steak or turkey to replace the hamburger. And yet, regardless of the circumstances, I shall think again as it seems I do each year of that Christmas Eve of so many years past. I shall think of Julie and the brown bag and the Wild Turkey. I shall think of our good fortune of simply being physicians exposed every day of our life to the joys and the sorrows and the goodness of our fellow creatures.

It is coming again, Christmas Eve is. A Merry Christmas to you all!

The Editor and your Editorial Board

Smooth Muscle Tumors of the Appendix and Colon: A Collective Review of the World Literature

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History

THE EARLIEST smooth muscle tumors of the colon to be reported manifested themselves dramatically. In 1875, Pelizzari¹ described a 500-g myoma, originally diagnosed as an ovarian cyst, expelled spontaneously from the rectum by a young girl. The tumor had been palpated previously in the ileo-cecal region.

The second case, that of Heurtaux² in 1884, was similar. The tumor had been palpated at the splenic flexure. It broke free and passed in to the rectum from which it had to be dislodged by the surgeon. Heurtaux³ subsequently reviewed all the benign tumors of the large and small intestine in the literature to that date.

Lafforgue⁴ found three small submucosal tumors in the appendix of a 52-year-old woman in 1893 and is credited by Koontz⁵ with being the

In this collective review, we compiled all reported cases of smooth muscle tumors of the colon/appendix in the world literature from 1959 to 1989. Our goal was to make more accurate conclusions about these tumors based on our increased data pool.

first to report such a case. No clinical notes were given by Koontz. In 1908, Moshcowitz⁶ and Stewart⁷ each reported an appendiceal leiomyosarcoma.

In 1917, King⁸ collected from the literature 45 leiomyomas among

169 benign tumors of the large and small intestines. Staemmler⁹ stated in 1924 that there had been no leiomyosarcomas reported from the colon. Even while his book was in press, Puskpelli¹⁰ published a case operated on in 1911. At the same time, Scott¹¹ in this country published a case treated in 1921. Scott's patient was 50 years old, and the earlier patient was 16 years old; both were males, both had tumors of the right colon, both had metastases, and both died soon after operation.

MacKenzie et al.¹² were able to collect 24 published cases of leiomyoma and leiomyosarcoma of the colon and to add 13 cases from the files of the Mayo Clinic by 1954.

In 1962, Skandalakis et al.¹³ collected 2525 cases of smooth muscle tumors of the alimentary tract. Collecting the literature from 1881 to 1959, they discovered 84 cases of

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leiomyoma and 33 cases of leiomyosarcoma (including those mentioned in series) of the appendix and colon. We have seen no other collective review of the subject.

Scope Of The Review

The aim of this collective review is to supplement the previous work of Skandalakis et al. of the smooth muscle tumors.¹³ We subsequently reviewed the world literature from 1960 to 1989.

Beginning with Pellizzari's dramatic case in 1875,¹ there have been 76 case reports of leiomyosarcomas, with 27 more cases reported in series. There were 77 individual case reports of leiomyomas, with 40 reported in series. These cases included Jaworski's review in which he reported three leiomyomas in the colon.¹⁴ Simmang and Reed,¹⁵ in their review of the leiomyomas of the gastrointestinal (GI) tract, reported four tumors that were within the colon. Also, Schmutzer et al.,¹⁶ in their review of tumors found in the appendix, reported two cases of leiomyoma found there. For the leiomyosarcomas, Akwari et al.¹⁷ reported 11 colonic leiomyosarcomas when they reviewed these tumors in the small and large bowel. We wish to mention these cases, but due to the fact they were reported as reviews, they are not included in the tabulated data.

A number of other 19th century case reports have been considered unacceptable for a variety of reasons. Cases mentioned by Tucker and Hellwig¹⁸ were too indefinite to be included, as was that of Kerchy and Keleman.¹⁹ A retroperitoneal leiomyosarcoma of Lumb²⁰ and a retroperitoneal and an omental tumor of Berman et al.²¹ were excluded because their intestinal connections were not certain. The three latter tumors were large and might have lost their original attachment. One case of Marshall and Cherry²² duplicated the case of

Cattell and Colcock²³ published earlier. In our review of the most recent 30 years, we found one borderline case in the French literature, and it is reported within the text of this paper. Except for this report, classification as leiomyoma or leiomyosarcoma was relatively straightforward.

It should be mentioned that in the hopes of maintaining historic perspective, we have maintained the format originally used.¹³ Some of the original prose proved to be outdated and thus was eliminated, whereas, some statements proved to stand the test of time and were maintained.

Etiology

No specific suggestions for the etiology of smooth muscle tumors of the large intestine have been advanced. The rarity of these tumors, together with the obscurity of their origin even in those portions of the alimentary tract where they are more frequent, leaves their development in the colon without special explanation.

Histogenesis

Dr. Leslie Sobin, Chief of Gastrointestinal Pathology at the Armed Forces Institute of Pathology, provided the following information about the histogenesis of smooth muscle tumors:

"In the GI tract, most smooth muscle tumors seem to arise from indigenous smooth muscle. Sometimes we see small leiomyomas entirely in the muscularis mucosae of the rectum or in the muscularis propria of the stomach. There are some lesions that appear to have a vascular orientation, i.e., forming muscular structures around blood vessels. We speculate that these may be arising from vascular smooth muscle. Immunohistochemistry has not clarified this. In our hands, desmin is rarely positive in GI smooth muscle tumors, whereas smooth muscle actin is

positive. Epithelioid smooth muscle tumors (the so-called leiomyoblastomas) are also probably of smooth muscle origin, since we often see a spindle cell component associated with them. S-100 protein is rarely positive in smooth muscle tumors, and we do not find it difficult to separate neurogenic from smooth muscle lesions. We do not use the term 'GI stromal tumor' in a diagnostic sense; if used, we apply it generically."²⁴

Incidence

Muir²⁵ in the Lettsomian Lecture for 1956, stated that there were three colonic sarcomas among 714 malignant tumors of the large intestine. Only one of the three was a leiomyosarcoma. If we take Stout's experience²⁶ to indicate the relative frequency of benign to malignant tumors, we find that the former are about twice as frequent as the latter.

Among the benign tumors of the colon, Stout found lipomas to account for slightly more than one-half; endometriomas were second, and leiomyomas were third in frequency. These last accounted for 10.8% of all benign tumors. Among malignant tumors, exclusive of carcinoma and adenoma, lymphosarcomas made up one-half of the cases, carcinoids almost one third, and leiomyosarcomas amounted to 11.1%. Thus, benign and malignant smooth muscle tumors occurred in the colon in almost the same proportion as did all benign and all malignant tumors of connective tissue origin.

In the appendix, Charache²⁷ was able to find only 23 sarcomas up to 1934, of which one was a leiomyosarcoma and two others were described as spindle cell sarcomas. In 1921, Collins²⁸ found 632 malignant tumors among 50,000 appendices; there were 830 leiomyomas, or 1.66%. Neuromas came second with an incidence of 1.18%, and each of the other benign tumors oc-

TABLE I — Age and Sex Distribution

Age	LEIOMYOMA						LEIOMYOSARCOMA					
	1875-1959			1875-1989			1875-1959			1875-1989		
	M	F	Total	M	F	Total	M	F	Total	M	F	Total
0-9	1	0	1	2	1	3	0	0	0	4	2	6
10-19	1	0	1	3	0	3	2	0	2	3	1	4
20-29	1	9	10	1	12	13	1	0	1	2	0	2
30-39	2	8	10	5	10	15	1	0	1	5	4	9
40-49	5	6	11	6	7	13	1	3	4	8	5	13
50-59	4	3	7	5	4	9	0	1	1	5	10	15
60-69	1	3	4	6	4	10	3	1	4	8	5	13
70-79	0	1	1	1	2	3	2	1	3	3	6	9
80-	0	0	0	0	0	0	0	0	0	2	1	3
Not stated	1	4	8*	1	4	8*	0	0	1**	0	1	2**
Total	16	34	53	30	44	77	10	6	17	40	35	76
Series cases sex not stated			31			40			16			27
GRAND TOTAL			84			117			33			103

* Including 1 with sex not stated

** Including 3 with sex not stated

curred in less than 1% of the appendices examined. This incidence can hardly be compared with that for other organs, as no such thorough study has been done outside the appendix.

Collins makes no statement as to the percentage of these leiomyomas producing symptoms, but one concludes that it was small. As Meissner²⁹ reported in 1944 from stomach autopsies, small leiomyomas are probably present in many people. They remain small, give no clinical signs, and can be found only by meticulous search at autopsy.

Stout²⁶ has reported accidental discovery of seven leiomyomas of the colon in surgical specimens resected for other lesions. All were small and intramural. He suggests that most of these small tumors increase in size for a while and then cease to grow for the rest of the patient's life.

In the aforementioned work of Skandalakis et al.,¹³ 53 cases of leiomyoma and 17 cases of leiomyosarcoma of the appendix and colon were collected, with 31 leiomyo-

mas and 16 leiomyosarcomas mentioned in series.

Age And Sex Distribution

The youngest patient with leiomyoma of the colon was a 21-month-old boy,³⁰ with the next youngest being an 8 1/2-year-old girl. Eighty-one percent of all cases occurred

between the ages of 20 and 70, followed by a marked decrease in incidence after age 70. The oldest patient was a 79-year-old woman³¹ (Table I).

Among the patients with leiomyosarcoma, the youngest were a newborn male³² and a 7-week-old female.³³ Fifty-five percent of cases

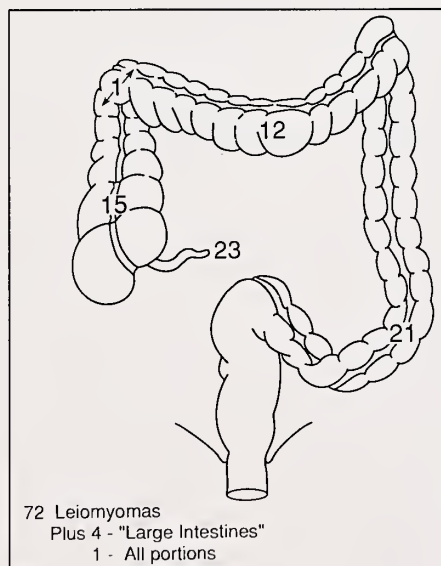


Figure 1 — Location of leiomyomas of the large intestines.

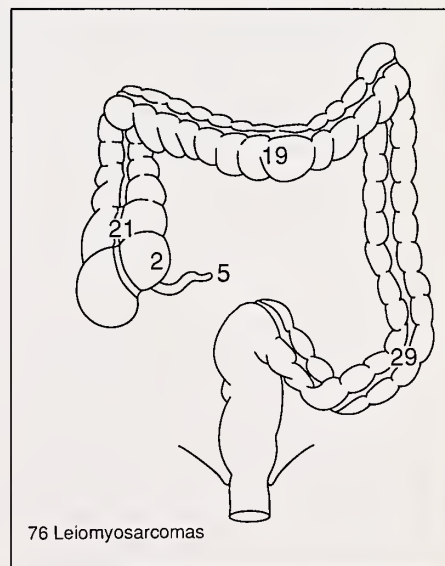


Figure 2 — Location of leiomyosarcomas of the large intestines.

reported were between the ages of 40 and 70, with slowly decreasing incidence after age 70. The oldest patients were an 83-year-old man³⁴ and an 82-year-old woman.³⁵

One and one-half as many leiomyomas of the colon occurred in women as in men, and more appeared at an earlier age in women. This is the only portion of the alimentary tract where more women than men were affected. In our accumulated data, leiomyosarcomas have been found in 40 men as opposed to 35 women, thus nearly having equal incidence.

Location

The greatest number of benign tumors of any portion of the large intestine lies in the appendix (Figures 1 and 2), as noted in our previous review. In the more recently collected data, the incidence of leiomyomas was distributed basically equal between the appendix, cecum/ascending colon, and descending/sigmoid colon, so that in our combined data, we find basically equal occurrence in the appendix and the descending/sigmoid colon. About one-third of leiomyomas are located in the appendix and one-third in the descending/sigmoid colon, with the remaining one-third spread out throughout (Table II). The leiomyosarcomas were proportionately fewer in the appendix than were leiomyomas, but otherwise the distribution was similar, with more tumors in the cecum and descending/sigmoid colon than elsewhere. (Table II).

Where the position with respect to the wall was stated, four of the 13 appendiceal tumors were endoenteric. In the colon proper, 21 out of 77 (27.3%) leiomyomas were exoenteric, by far the most common. In the colon proper, 10 out of 76 leiomyosarcomas were exoenteric, with endoenteric tumors being the most common: 19 out of 76 (25%). Of the two ap-

pendiceal leiomyosarcomas reported, both were endoenteric. Intramural tumors were few, with only three leiomyomas and two leiomyosarcomas being dumbbell-shaped (Table III).

Signs And Symptoms

A palpable mass and pain or discomfort are the two most frequent symptoms indicating the presence of smooth muscle tumors in the colon. No other symptoms occurred nearly as often. Hemorrhage was reported in 13 of the 77 leiomyomas reporting symptoms, nausea and vomiting in 11 of 77, and both constipation and diarrhea sometimes accompany either type of tumor. The leiomyosarcomas presented similar numbers. Weight loss was more common among leiomyosarcomas, as one would expect, being reported in 20 of 76 patients reporting symptoms. Weakness was infrequently reported. Other symptoms reported were varied. In this category, diarrhea was commonly reported: 11 of 77 leiomyomas and 6 of 76 leiomyosarcomas. Though not necessarily a sign or a symptom, intussusception was reported in 2 of 77 leiomyomas and 7 of 76 leiomyosarcomas. Tables IV and V give complete details.

Anemia

Anemia is much less frequently associated with colonic smooth muscle tumors than with gastric or intestinal tumors. Eight patients with leiomyosarcoma had moderate anemia.³⁶⁻³⁸ Two patients with leiomyosarcoma also showed anemia,^{39,40} and in both it was severe. Both had melena, but in only one³⁹ was the tumor found to be ulcerated at surgery. In 15 leiomyosarcomas, anemia was present, and figures were given. In these, hemoglobin values ranged from 6.2 g% to 11.7 g%. Anemia was reported less in the patients with leiomyomas; however, five patients re-

ported anemia, with hemoglobin values ranging from 7.3 to 11.5 g%.

Duration of symptoms

The number of years symptoms have existed is no better index of the life of a smooth muscle tumor in the colon than elsewhere. One was reported to have produced symptoms for 20 years. Two benign tumors were reported to have symptoms greater than 10 years (Table VI).

Of the leiomyosarcomas, 82% had produced symptoms for 1 year or less, while 63% of leiomyomas came to surgery within a year. This last piece of data increased from 37% reported in our last series, probably resulting from today's better diagnostic techniques and patient awareness. Thirty-eight percent of the colonic leiomyomas had a history of 1 year or more, while none of the leiomyosarcomas had produced symptoms for more than 3 years.

Diagnosis

Either pain or palpable mass were present in about 42% of patients with colonic leiomyomas and in about 38% of the patients with leiomyosarcoma. These are the only findings occurring frequently enough to be of diagnostic value. The presence of such masses should be expected to lead to a diagnosis of neoplastic disease. In the majority of both leiomyomas and leiomyosarcomas, the preoperative diagnosis was given only as "neoplasm." If the mass can be palpated, yet does not appear radiologically, an exocolic sarcoma might be suspected. There is little possibility of reaching a more precise diagnosis.

In a few cases of leiomyoma, the preoperative diagnosis was correct. In 23 cases, neoplasm of the colon was diagnosed, and in three other cases the neoplasm was assigned to the wrong organ. Appendicitis was the preoperative diagnosis in

TABLE II — Location of Tumors

Position	LEIOMYOMA		LEIOMYOSARCOMA	
	1875-1959	1875-1989	1875-1959	1875-1989
Appendix	18	23	3	5
Cecum/Ascending Colon	8	15	7	21
Hepatic Flexure	1	1	0	0
Transverse Colon	7	12	1	19
Descending/Sigmoid Colon	15	21	6	29
"Large intestine"	3	4	0	0
Ileocecal junction	0	0	0	2
All portions (multiple)	1	1	0	0
TOTAL	53	77	17	76

TABLE III-A — Position of Tumors of Colon and Appendix Related to Wall and Lumen in 53 Leiomyoma Cases and 17 Leiomyosarcoma Cases, From 1875-1959

Position	Exocolic	Endocolic	Both	Intramural	Not Stated
<i>Leiomyoma</i>					
Appendix	1	4	0	1	12
Ascending Colon	3	2	0	1	2
Transverse Colon	6	1	0	0	0
Descending Colon	7	2	1	1	4
"Large intestine"	0	0	1	0	2
Hepatic flexure	0	1	0	0	0
All 3 regions	1	0	0	0	0
Percent	34.0	18.9	3.8	5.7	37.7
<i>Leiomyosarcoma</i>					
Appendix	0	0	0	0	3
Ascending Colon	1	5	0	0	0
Transverse Colon	0	0	1	0	0
Descending Colon	2	2	0	0	1
"Large intestine"	0	0	0	0	0
Ileocecal junction	0	0	0	0	0
Percent	17.6	41.2	5.9	0	35.3

TABLE III-B — Position of Tumors of Colon and Appendix Related to Wall and Lumen in 77 Leiomyoma Cases and 76 Leiomyosarcoma Cases, From 1875-1989

Position	Exocolic	Endocolic	Both	Intramural	Not Stated
Appendix	3	4	0	2	13
Ascending Colon	6	2	1	3	3
Transverse Colon	7	1	0	0	4
Descending Colon	7	4	1	1	8
"Large intestine"	0	1	1	0	2
Hepatic flexure	0	1	0	0	0
All 3 regions	1	0	0	0	0
Percent	31.2	16.9	3.9	7.8	39.0
<i>Leiomyosarcoma</i>					
Appendix	0	2	0	0	3
Ascending Colon	1	9	0	2	8
Transverse Colon	5	3	2	3	6
Descending Colon	4	5	0	4	15
"Large intestine"	0	0	0	0	2
Ileocecal junction	0	2	0	0	0
Percent	13.2	27.6	2.6	11.8	44.7

TABLE IV — Symptoms Reported in Patients with Leiomyoma of the Colon and Appendix

Symptoms	1875-1959		1875-1989	
	Alone	Total with Symptoms	Alone	Total with Symptoms
Nausea and vomiting	0	7	0	11
Hemorrhage	2	8	4	13
Pain	7	21	10	36
Weight loss	0	5	0	9
Weakness	0	3	0	3
Palpable mass	6	19	7	25
Constipation	0	7	0	8
Other*	—	23	—	39
Asymptomatic	1	1	1	1

* Other symptoms included diarrhea, distention, dysuria, "symptoms of appendicitis," fever/chills, tenesmus, sensation of tumor, obstruction, intussusception.

TABLE V — Symptoms Reported in Patients with Leiomyosarcoma of the Colon and Appendix

Symptoms	1875-1959		1875-1989	
	Alone	Total with Symptoms	Alone	Total with Symptoms
Nausea and vomiting	0	2	0	12
Hemorrhage	0	5	1	18
Pain	0	9	5	45
Weight loss	0	1	0	20
Weakness	0	1	0	7
Palpable mass	0	13	2	22
Constipation	0	4	0	8
Other*	0	6	—	43
Asymptomatic	0	0	0	0

* Other symptoms included diarrhea, distention, dysuria, pressure, fever, obstruction.

TABLE VI — Duration of Symptoms

Duration	LEIOMYOMA		LEIOMYOSARCOMA	
	1875-1959	1875-1989	1875-1959	1875-1989
≤ 1 month	2	7	5	10
> 1 month, but < 1 year	9	18	7	31
> 1 year	4	5	1	7
> 2 years	6	6	0	2
> 5 years	2	2	0	0
> 10 years	2	2	0	0
TOTAL REPORTED	25	40	13	50

six patients whose tumors actually were in the appendix. One patient was diagnosed with appendicitis with the tumor being located elsewhere in the colon. The remainder of the 101 diagnoses given varied from colitis to tuberculosis, with nine reported as intussusception (Tables VII and VIII).

Six leiomyosarcomas were correctly diagnosed before operation, 33 designated as neoplasms, while two were called carcinoma. In 21 cases, no preoperative diagnosis was reported.

Radiologic Findings

Radiologic findings were re-

ported in 20 patients with benign and 20 patients with malignant tumors. In one leiomyoma and two leiomyosarcomas, the x-ray was negative. In one of the latter,⁴⁰ the tumor was intramural in the cecum, was the size of a walnut, and had been palpated.

Endocolic leiomyomas are gen-

TABLE VII — Preoperative Diagnosis in Patients with Leiomyoma

<i>Diagnosis</i>	<i>1875-1959 Number of Cases Diagnosed</i>	<i>1875-1989 Number of Cases Diagnosed</i>
Correct, after biopsy	3	3
Neoplasm	10	26
Other		
Colitis	1	1
Intussusception	1	2
Appendicitis/tumor in appendix and/or gallbladder	3	5
Tumor in gallbladder	1	1
Uterine mass	1	1
Diverticulum or amebic infection	1	2
Tuberculosis	1	1

TABLE VIII — Preoperative Diagnosis in Patients with Leiomyosarcoma

<i>Diagnosis</i>	<i>1875-1959 Number of Cases Diagnosed</i>	<i>1875-1989 Number of Cases Diagnosed</i>
Correct, after biopsy	1	6
Neoplasm	3	33
Carcinoma of colon	2	2
Carcinoma of ovary	1	1
Appendicitis (tumor elsewhere)	1	1
Appendicitis (tumor there)	1	1
Myomatous uterus	0	1
Appendiceal abscess	0	1
Stricture	0	1
Ileocecal TB	0	1
Peritonitis	0	1
Intussusception	0	7
Multicystic renal dysplasia	0	1
Perforated diverticulitis	0	1
Cyst	0	1

erally well defined and usually do not interrupt the haustral pattern or destroy the mucosal markings. An ulceration niche may or may not be present. Thorough evacuation of the colon before barium enema is necessary. Buckstein⁴¹ also advocated radiography after partial evacuation of the colon for best contrast. In one of the authors' cases, the x-ray diagnosis was carci-

noma of the sigmoid colon, because the tumor was fixed to the overlying mucosa.

Colonoscopy

Colonoscopy was employed in five patients with benign tumors and in two with a malignant tumor. In one⁴² of these cases, this procedure resulted in a correct diagnosis. In this case a biopsy was also taken.

In two other instances,^{43,44} biopsy was taken; in one,⁴⁴ a correct diagnosis was reached.

It is the advice of the authors that total colonoscopy must be used in conjunction with air contrast barium enema in order to accurately locate the tumor. Location along with biopsies will not only help the surgeon's operative strategy but will also allow for adequate discussions to inform the patient of options and outcomes prior to surgery. Sonography and CT scan should be included when indications are in order.

Differential Diagnosis

In several cases, the symptoms of patients with smooth muscle tumors have accurately resembled chronic or acute appendicitis, or acute gall bladder attacks. In view of the relative frequency of appendicitis and cholecystitis, it is not surprising that the surgeon would think of them before considering so rare a condition as a smooth muscle tumor of the colon. Smooth muscle tumors of the colon do not differ grossly or microscopically from those found elsewhere in the alimentary tract. Cystic degeneration, necrosis, hyaline degeneration, calcification, or encapsulation is commented on in the following section on pathology.

Pathology

Smooth muscle tumors of the colon do not differ grossly or microscopically from those found elsewhere in the alimentary tract. Six leiomyomas had undergone cystic degeneration. Four were calcified. Three were described as encapsulated; one was one of the few that were retroperitoneal.⁴⁵ Of the leiomyosarcomas, nine were reported to have undergone cystic degeneration, one was reported as calcified, and three were reported to be encapsulated (Figure 3).

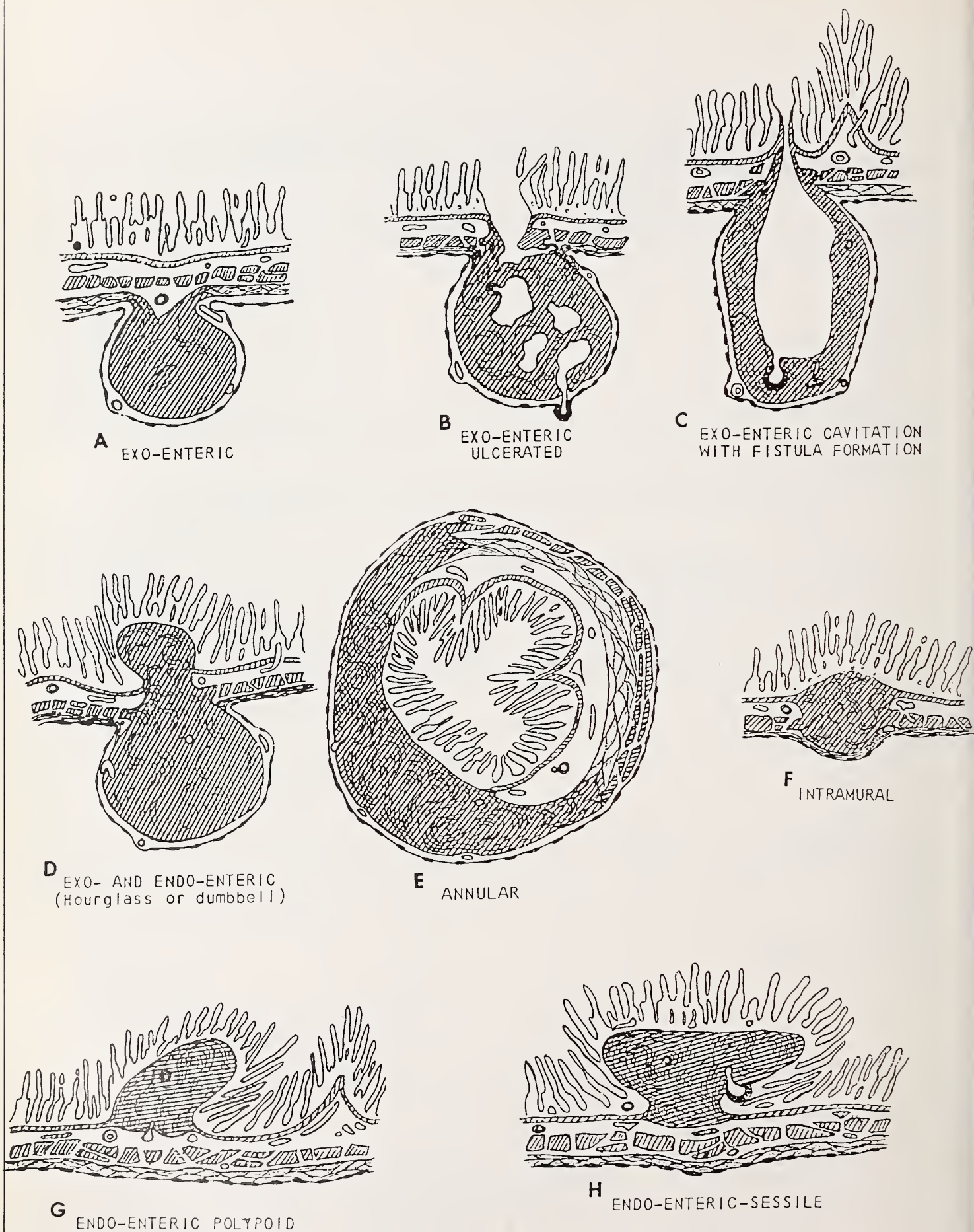


Figure 3 — Typical forms of smooth muscle tumors of the small intestine and colon. A, B, and C show three stages of an exo-enteric tumor undergoing degeneration and fistula formation.

Gross Characteristics

Ten leiomyomas were multiple. In one patient, the taeniae of the whole colon contained numerous nodules from the size of millet seeds to that of hazel nuts.³⁶ It appears to be a case of myomatosis similar to those reported in the small intestine by Nazzari.⁴⁵ Freni et al.⁴⁶ reported a case of leiomyomatosis of the colon as did Spaun and Nielsen,⁴⁷ except in the latter it was reported to include the mesentery. Another patient had an annular leiomyoma of the sigmoid colon and numerous nodules over the remainder of the colon and appendix.⁴⁸ This latter case appears suspiciously like a leiomyosarcoma with metastases, but the authors did not consider it to be so; we therefore include it under multiple leiomyomas.

One case of leiomyosarcoma was reported to be multiple. Cho and Smith⁴⁹ reported a case that involved the transverse colon. Interestingly enough, there was one case found of leiomyosarcomatosis of the GI tract that included the colon. Rutgeerts et al.⁵⁰ report this case of a middle-aged woman who presented with subcutaneous nodules found in the right upper abdominal quadrant and later found to have diffuse disease.

Both benign and malignant tumors may project into the colonic lumen or outward toward the peritoneal cavity. Five such tumors, three leiomyomas and two leiomy-

osarcomas, were dumbbell-shaped and grew in both directions. Six leiomyomas were found while they could still be called intramural, two of which were in the appendix. No leiomyosarcomas were found to be intramural in our previous review, but nine were found to be so in our latest search through the last 30 years. Only three were dumbbell-shaped. The tumors may be sessile or pedunculated, simple lobulated or multiple. Two were annular.^{48,51} Fifteen had undergone cystic degeneration, and six were necrotic.

Rather more smooth muscle tumors of the colon become attached to other organs or the abdominal cavity than do similar tumors of the small intestine. Uterus, ileum, and stomach are the chief sites of attachment, although other abdominal organs may be involved. This tendency toward adhesion formation results from the relatively fixed position of the colon compared to that of the small intestine. In the latter organ, coils change their relationships frequently enough that adhesions only occasionally have a chance to develop.

Microscopic Findings

In a leiomyoma, the muscle fibers are arranged in whorls or in palisades when examined microscopically, and there is usually a thin pseudocapsule. Contraction of the smooth muscle of the tumor may result in pain, as has been reported for tumors of the arrectores

pilorum of the skin.⁵² Contraction of uterine myomas has been seen in vitro.⁵³

Distinguishing microscopically between benign and malignant smooth muscle tumors may be difficult. In leiomyosarcomas, the whorls and palisades of cells are more prominent and are without pseudocysts. Evans' criteria for malignancy⁵² is still used today:

1. Increased cell size
2. Increased irregularity of cell size and shape
3. Lack of complete cell differentiation
4. Presence of short, plump cells with oval nuclei
5. Presence of cells with hyperchromic and multiple nuclei with variable staining reactions. Today, however, also we can use DNA analysis by flow cytometry in difficult cases.

We agree with Morgan et al.⁵⁴ that the level of mitotic activity is the criterion for determining malignancy. The same authors reported three recurrent tumors in the stomach, duodenum, and jejunum which had high mitotic indexes of 2, 4, and 7. (Mitotic index is defined at the number of mitotic figures per 50 high-powered fields.) Appleman⁵⁵ reported that only one of his 49 cellular tumors with a low mitotic index behaved malignantly.

We sympathize with the pathologist when he or she is unable to give a correct diagnosis in a case of smooth muscle tumor. Appleman⁵⁶

TABLE IX — Size of Tumors

Size of Tumors	LEIOMYOMA				LEIOMYOSARCOMA			
	1875-1959		1875-1989		1875-1959		1875-1989	
	No. of Cases	Percent	No. of Cases	Percent	No. of Cases	Percent	No. of Cases	Percent
Less than 5 cm	14	36.8	23	40.0	1	6.7	7	11.3
5-9 cm	10	26.3	15	25.9	8	53.3	31	50.0
10-14 cm	8	21.1	12	20.7	3	20.0	13	21.0
15 cm or more	6	15.8	8	13.8	3	2.0	11	17.7
TOTAL	38		58		15		62	

reported that metastases developed in 13% of patients with seemingly benign gastric smooth muscle tumors, with 1 to 5 mitoses per 50 high-powered fields. That mitotic activity, however, is the best diagnostic criterion nobody doubts.

Another criterion that gives ambiguous answers is the size of the tumor. Evans⁵⁷ reported that the size of the tumor is not a prediction of metastatic potential.

Recently, Chadwich et al.⁵⁸ reported leiomyomata and leiomyosarcomata in three children infected as infants with the human immunodeficiency virus (HIV). The tumors involved the lungs and the GI tract, suggesting a nonrandom association with acquired immunodeficiency syndrome (AIDS). And the author postulated that HIV infection may play a role in tumor formation. Various tumors other than Kaposi's sarcoma have been reported. Strongest association is tumors of the immune system.

Much remains to be learned about smooth muscle tumors from a pathologic aspect. The authors believe that modern techniques such as histochemistry, cytochemistry, and immunohistochemistry could create a greater understanding about the formation of these tumors. Studies need to be made that

determine why alimentary tract tumors are rare and uterine ones are not, why smooth muscles are more likely to develop tumors than others, and why some malignant tumors tend to metastasize or recur more than others.

Dr. Sobin described the following criteria for malignancy. "In the absence of frank anaplasia, we rely mainly on size and mitotic activity. Tumors 6 cm or larger, or those with over five mitoses per 50 high-power fields are likely to have metastatic potential. Tumor necrosis also favors malignancy. The borderline area, viz tumors with low mitotic rate and large size, is a problem. We use "smooth muscle tumor of uncertain malignant potential" in such cases. Unless a tumor is clearly benign, we often add that it is difficult to predict the behavior of smooth muscle tumors in the GI tract."²⁴

Borderline Cases

Only one borderline case was noted in our review of the colon and appendix, and this was found in our review of the French literature. Wiercioch et al.⁵⁹ noted a 20-cm tumor of the transverse colon which was resected with an end-to-end anastomotic repair. Upon pathologic inspection, the mass

was noted to have "aspects of a leiomyoma, but with reservations."

Size of the Tumor

Twenty-three of the 58 leiomyomas of the colon for which size was reported were less than 5 cm in their greatest diameter, by far the most common size category. For the leiomyosarcomas, the most common size was in the 5-9 cm range, for which there was 31 of 62 reported. Seven of 62 leiomyosarcomas were below 5 cm in diameter. The majority (7 of 11) of leiomyosarcomas over 15 cm were in the descending colon. On the other hand, the leiomyomas over 15 cm were spread over the cecum/ascending colon, transverse colon, and the descending/sigmoid colon (Table X).

The largest leiomyoma was 29 x 29 cm and had risen from the sigmoid colon⁴³. Another was 30 x 15 cm.⁶⁰ The only symptom reported in either of these cases was "palpable mass." The leiomyosarcomas of the colon did not reach quite such heroic proportions; one attained 22 cm,¹⁸ and another was 21 cm.⁶⁰

Ulceration and Perforation

Six benign and 15 malignant smooth muscle tumors of the colon ulcerated. This amounted to 5.6%

TABLE X — Size of Tumors Related to Location

Location	LEIOMYOMA							
	1875-1959				1875-1989			
	Less than 5 cm.	5-9 cm	10-14 cm	15 cm or over	Less than 5 cm	5-9 cm	10-14 cm	15 cm or over
Appendix	8	3	0	0	10	3	2	0
Cecum/Ascending colon	2	1	4	0	5	2	4	2
Transverse colon	0	1	1	3	0	3	1	3
Descending/Sigmoid colon	3	4	3	3	7	5	5	3
"Large intestine"	1	0	0	0	1	1	0	0
Location	LEIOMYOSARCOMA							
	Less than 5 cm.	5-9 cm	10-14 cm	15 cm or over	Less than 5 cm	5-9 cm	10-14 cm	15 cm or over
Appendix	0	1	0	0	0	2	1	0
Cecum/Ascending colon	1	3	3	0	2	9	3	2
Transverse colon	0	0	0	1	3	11	2	2
Ascending/Sigmoid colon	0	3	0	2	2	8	7	7
Ileocecal junction	0	0	0	0	0	1	1	0

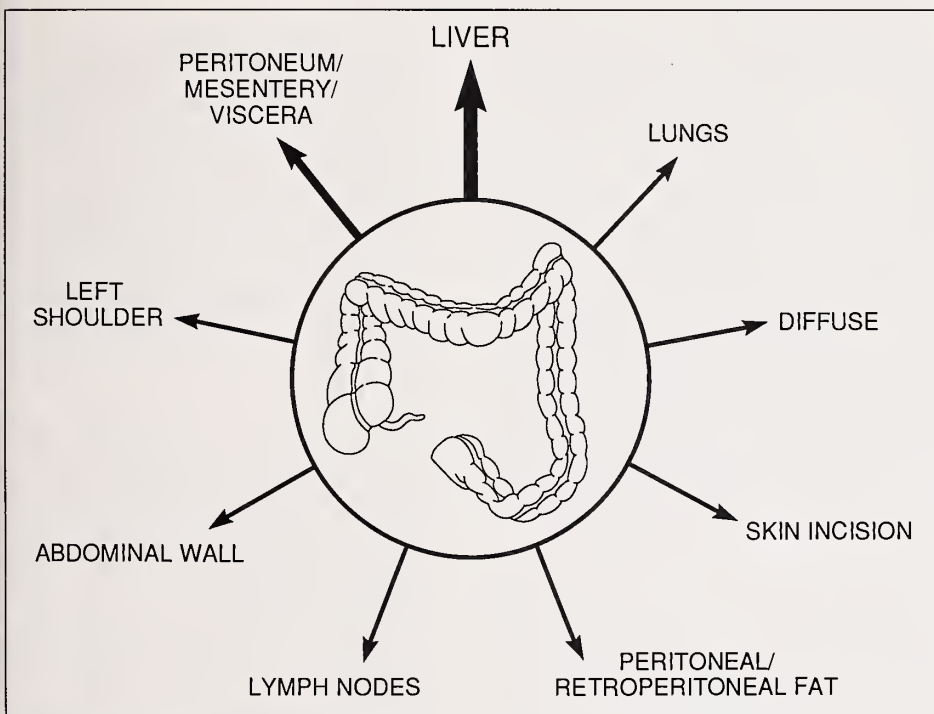


Figure 4 — Sites of metastasis from leiomyosarcomas of the colon.

of leiomyomas and 16.3% of leiomyosarcomas.

No hollowed fistulous tumors, such as were present in the small intestine, have been reported from the colon. The tumors undergoing cystic degeneration may have been in the early stages of a process leading to cavitation and fistula, but a complete diverticulum-like fistula was not reported.

Perforation took place in the appendix of one patient⁶¹ and occurred once with a leiomyosarcoma in the colon proper.

Intussusception

Two benign and seven malignant tumors of the colon produced intussusception. Donhauser and Kelly⁶² report that 44% of intussusceptions in adults are produced by benign tumors, yet another 25% show no organic cause. Why more smooth muscle tumors do not result in intussusception, while the condition occurs so readily in the absence of a tumor, is yet to be explained.

Diffuse Myomatous Hyperplasia and Myomatosis

One case of diffuse myomatous hyperplasia has been reported from the large intestine. In 1906, Estes⁶³ described a "stenosis of the sigmoid flexure, which resulted from enormous and symmetrical hyperplasia, chiefly of the muscular coats of the gut, and which formed a well-marked tumor of the intestine . . . and the stenosis was produced by the bulk of the hyperplastic muscular layer." The author considered this to be a hyperplasia and not a rare tumor, but its rarity, together with its resemblance to a few cases found in the esophagus, make it worthy of notice.

Four cases of myomatosis have been reported. In one case, a patient dying of tuberous sclerosis was found to have a large number of leiomyomas ranging in size from "a grain of millet to a hazelnut" and occurring only on the longitudinal muscle (taeniae coli) throughout the length of the large intestine.

Another patient also had multi-

ple leiomyomas, some subserosal some submucosal, and some infiltrating the wall of the entire colon.⁴⁸ There was an annular constricting leiomyoma in the sigmoid colon. The colon was enlarged, and a diagnosis of Hirschsprung's disease was reported. Constipation had existed since childhood. However, acquired megacolon secondary to mechanical stretching cannot be ruled out.

As stated before, Freni et al.⁴⁶ reported a case of leiomyomatosis of the colon as did Spaun and Nielsen,⁴⁷ except in the latter report, it was reported to include the mesentery.

Metastases

Of the 76 leiomyosarcomas of the colon, 18 (23.7%) had metastasized to the liver (Figure 4). Only one of the tumors which were reported to be less than 5 cm in diameter metastasized.⁷³ It is our impression that metastases arise largely from middle-sized tumors (5-14 cm in greatest diameter). Of those tumors reported to be within the 5-14 cm range, 21 cases had metastases, including lungs, peritoneum, lymph nodes, liver, as well as diffuse metastasis. One case of metastasis was reported to the left shoulder.⁶⁴ In addition to those sites listed above, the omentum, the retroperitoneal fat pad, and GI tract were other locations of metastasis or extension mentioned. In one instance, it was not clearly stated whether the metastases arose from the leiomyosarcoma of the colon or from concurrent adenocarcinoma of the rectum.²⁰

Recurrence

One leiomyosarcoma of the right colon in a 16-year-old boy was found at autopsy to have recurred.¹¹ Anastomosis of the ileum and transverse colon with subsequent resection of the right colon was performed. Recurrence was at the anastomotic site, and metastasis

was found 1 year later. In our recent review of the last 30 years, 17 cases of leiomyosarcoma were recorded as later recurring. No leiomyomas of the colon was reported to have recurred after surgery, although most of the time, follow-up records are far from adequate.

Concurrent Disease

Among the patients with benign smooth muscle tumors of the colon, 11 had neoplasms elsewhere in the body. Four had leiomyomas of the uterus, one had carcinoma of the vagina, one had carcinoma of the rectum, one had a leiomyoma of the clitoris, and one each had a lipoma, a hypernephroma, and a "brain tumor." One, more specifically, had a meningioma. There was one case of tuberous sclerosis. In one patient, the tumor was found in a hernial sac adhering to the testis. No other concurrent diseases reported seemed significant.

Patients with leiomyosarcoma of the colon included one with adenocarcinoma of the rectum, one with carcinoid metastases to the liver from an undiscovered primary site, and one with multiple polypoidosis of the colon. One case was reported with diverticulosis.⁶⁵ None of these associated diseases throw light upon the etiology of smooth muscle tumors.

Treatment

The surgical treatment of smooth muscle tumors ranges from simple excision to subtotal colectomy. The procedure used in any patient is governed by the answers to the following questions:

1. Is the tumor benign or malignant?
2. What is the size of the tumor?
3. Where is the tumor located?
4. Is the tumor endocolic, exocolic, or intramural?
5. Is it fixed to neighboring anatomical entities?
6. Are any lymph nodes involved?

7. Any metastases?

The answers to these questions must be evaluated in conjunction with the natural history of the benign or malignant smooth muscle tumor and the age and general condition of the patient. The anatomic basis of colonic surgery should be known to the surgeon. Last, but not least, the surgeon should remember that if the pathologist has no doubt about the benignity of the tumor in frozen sections, a more radical procedure will be chosen, despite the fact that recurrence is rare but by all means possible.

Benign Tumors

If the tumor is benign and small, excisional biopsy or wedge resection is the proper procedure. Enucleation is not advised. If the tumor is pedunculated and the peduncle is not involved, then perhaps, with the blessing of the pathologist, "pedicle cut" will be sufficient. The same is true for appendiceal tumors, especially if only the tip of the appendix is involved. Overall, if there is any doubt, then subtotal colectomy will be required.

Malignant Tumors

Colonic leiomyosarcoma should be treated in the same manner as carcinoma; subtotal colectomy is the treatment of choice. Total colectomy should be reserved for multiple malignant smooth muscle tumors involving right and left colon. Distant metastasis should not deter the surgeon from performing the planned operation, since leiomyosarcoma are known to open slowly, and the patient may survive for many years.¹³ The reconstruction procedures are up to the surgeon. An end-to-end anastomosis is advisable if possible.

The purpose of this paper is not to give detailed recommendations about the several procedures involved, but the following brief guidelines are a must:

1. Preoperatively prepare the

bowel.

2. En bloc resection if adjacent anatomical entities are involved (loops of small bowel, tubes, ovaries, etc.).
3. If a giant leiomyosarcoma is present, then the accepted procedures are palliative resection or, if the resection is impossible, bypass. (Remember the slow growth of smooth muscle tumors.)
4. Generally, the anatomic routes, as in carcinoma, are followed, performing a typical right or left colectomy incorporating, if the surgeon deems necessary, the transverse colon
5. If there is an obstruction and the bowel is not prepared, then the following procedures are recommended, depending, of course, on the location of the obstruction and the local finding of the colonic wall (edema, etc.): definite resection with anastomosis (right colon) or definite resection without anastomosis and double-barrel colostomy or proximal colostomy with mucous fistula or Hartmann's pouch (left colon).

In a recent, very thorough paper, the NIH Consensus Development Conference⁶⁶ recommended several points regarding the adjuvant therapy for patients with colon and rectal cancer. Perhaps the patient with non-epithelial "cancer" (leiomyosarcoma) will benefit if the surgeon and hematologist know that their patient is at risk and which of the modern treatments is more effective.

Radiation

It is well known that malignant smooth muscle tumors are radioreistant. However, if the tumor is not resectable and if a bypass procedure has been done, considering radiation treatment for palliation is acceptable, because it is the only treatment that we can offer to the patient.

Unfortunately, there are not enough patients treated with radiation that have been reported in the literature. Consentino et al.³¹ stated that complimentary radiotherapy or chemotherapy is ineffective. As previously discussed, Minsky et al.³⁴ have a patient on whom they performed a sphincter-preserving procedure complimented with radiotherapy with favorable results.

Chemotherapy

The use of chemotherapy in the treatment of leiomyosarcoma has, in general, proven disappointing. The two most widely used agents are Adriamycin and DTIC. Adriamycin has been associated with response rates of 15 to 30%,^{90,91} whereas DTIC has been found to cause tumor regression in only 16%⁹¹ of the patients. When combined, Adriamycin and DTIC produce a slightly higher response rate than Adriamycin and DTIC alone; unfortunately, survival is unchanged.^{93,94} At the present time, there is much controversy about whether this improvement in response rate justifies the additional toxicity of DTIC. Of note, Ifosfamide, a new drug only recently released by the FDA, may prove useful in this disease. As a single agent, response rates in the 18 to 38% range have been noted.^{95,96} In combination with Adriamycin, with or without DTIC, response rates of 41 to 47% are seen.^{97,98} At the present time, standard therapy is considered to be Adriamycin with or without DTIC. It is hoped that Ifosamide will prove a useful addition to our armamentarium.

Chemotherapy in combination with radiation therapy may improve treatment, but there is minimal experience reported in the world literature. Recently, Knecht⁶⁷ presented good results in 17 patients with cancer of the anus who were treated with chemotherapy and radiation. He believes chemotherapy and radiation will replace

abdominoperineal resection, but only the future will tell us more about this treatment.

Follow-Up

In the literature, the follow-up studies are either not reported or very poorly reported. The authors feel that the surveillance should be the same as in carcinoma. Colonoscopies, barium enemas, chest films, hematologic studies, and other diagnostic tests should be performed to follow the patient after initial therapy is given.

Biannual colonoscopy for the first 3 years and annual colonoscopies for life are the advice of the authors. This advice does not follow that of the advice collected in the literature which suggests annual examination for the first 2 years and then at 3 to 5 year intervals for life.⁶⁸

Recently, Michelassi et al.⁶⁹ presented an authoritative paper about local recurrence after resection of colorectal cancers. To summarize this in-depth paper would be a lengthy task, so the authors refer interested readers who deal with colorectal cancer to read it.

Mortality

Leiomyoma

Of the 77 patients with leiomyoma of the colon, seven were reported to have died of the disease without operation. Sixty-six were known to have been operated upon; one died immediately following an enucleation of the tumor, and two died later of unrelated causes (Table XIII).

Leiomyosarcoma

Of patients with leiomyosarcoma, 72 were operated upon and of the four that died without surgery, one died because of being too ill at admission.⁷⁰ Two died following their surgery,^{16,71} and 25 are known to have died later, most from their disease. Several patients

were living but had metastases at the time their cases were reported (Table XIII).

Prognosis

The prognosis for patients with leiomyomas of the colon is good. Only one surgical death in 43 operations has been reported.³⁸ Recurrence is not known.

Two patients undergoing partial colectomy and anastomosis for leiomyosarcoma died of surgical complications. Three died of metastases later despite partial colectomy. One of these suffered a recurrence as well.¹¹ Two other patients died of metastases following surgery, and one patient died from metastases 1 day after diagnosis without operation. Table XII shows the outcome in relation to operative procedures.

Prevention

We know some of the risk factors perhaps participating in the production of epithelial tumors of the anorectum, such as fat, and we know some agents that perhaps protect the colonic wall, such as fiber, carotinoid vegetables, and fluids in the diet. We do not know if the same criteria should be used for future protection from smooth muscle tumors. However, such a diet should be followed by everyone for possible prevention.

Future Work On Smooth Muscle Tumors

Since the original presentation of smooth muscle tumors over 100 years ago, little has been written about the possible genesis of these tumors, a genesis de novo benign, de novo malignant, or finally benign with malignant degeneration or predisposition. Which are the etiologic agents of this disease? In the beginning, is there any carcinogenic process or a malignant process to a benign leiomyoma? Is there a correlation between other primary tumors of the GI tract of

TABLE XI — Metastases Related to Size of Tumors

<i>LEIOMYOSARCOMA</i>				
<i>1875-1959</i>		<i>1875-1989</i>		
<i>Size of Tumor</i>	<i>No. of Cases</i>	<i>No. with Metastases</i>	<i>No. of Cases</i>	<i>No. with Metastases</i>
< 5 cm	2	0	9	1
5-9 cm	8	3	33	15
10-14 cm	3	3	14	6
15 cm and over	3	1	11	6

TABLE XII — Surgical Procedures and Outcome for Smooth Muscle Tumors of the Colon

<i>LEIOMYOMA</i>				<i>LEIOMYOSARCOMA</i>	
<i>Surgery</i>	<i>1875-1959</i>	<i>1875-1989</i>	<i>1875-1959</i>	<i>1875-1989</i>	<i>1875-1989</i>
Ostomy	0	0	0	5	
Enucleation	3	3	0	0	
Excision	6	8	1	3	
Pedicle cut	3	3	0	0	
Resection	14	27	10	51	
Appendectomy	7	10	2	2	
Tumor extracted from anus (spontaneously broke free from hepatic flexure — Heurtaux)	1	1	0	0	
Operation not specified	9	13	3	13	
Surgery probably not performed	4	4	0	0	
Not operated	6	7	1	2	

TABLE XIII — Causes of Death

<i>LEIOMYOMA</i>			<i>LEIOMYOSARCOMA</i>	
	<i>1875-1959</i>	<i>1875-1989</i>	<i>1875-1959</i>	<i>1875-1989</i>
Died unoperated	6	7	1	4
Died immediately postoperatively	1	1	2	2
Died later	0	2	5	25
TOTAL REPORTED	7	10	8	31

epithelial or nonepithelial origin? Despite the fact that we want to believe that we have collected and analyzed all these cases in the world literature — errare humaum est — still there are many questions without answers. If we, the clinicians, have a better knowledge of etiology, pathogenesis, and possible carcinogenesis of this problem, we will be able to treat our patients better, to offer them better survival

rates or even a “cure.” Technology offers physicians and patients alike so much today, that early diagnosis and treatment will have excellent results.

The authors of this review of cases dare to advise the following decalogue for future work on smooth muscle tumors:

1. Adequate follow up for the formation of good survival tables.

2. Detailed surgical procedures with results and accurate location of metastasis.
3. Follow the criteria of Evans for the diagnosis of malignancy or develop a better one.
4. Anatomic location of the tumor(s) is a must, especially in the anorectal area.
5. More complete work on the natural history of the disease.
6. Additional studies to discover

why smooth muscle is prone to tumor formation more than other muscle tissues. (If there are such studies, please forgive our ignorance.)

7. The role of radiation for the treatment of leiomyosarcomas.
8. The role of chemotherapy.
9. The combination of both with or without surgery.
10. More studies for more effective anticancer drug treatment, as Bahnson and Lazo⁷² recently advised that more genetic research should be done, such as monoclonal antibody production for early diagnosis, intracellular cytokine pathways of carcinogenesis, and others, not forgetting, of course, environmental studies.

Summary

In this collective review, we compiled all reported cases of smooth muscle tumors of the colon/appendix in the world literature from 1959 to 1989. The goal of this endeavor was to increase the data pool of smooth muscle tumors by adding this new data to our old data (inclusive of 1875 to 1959) from the book by Skandalakis et al.¹³ Our goal was to make more accurate conclusions about smooth muscle tumors of the colon/appendix based on our increased data pool. For individual cases, we increased the data pool for leiomyomas from 53 to 77 cases, and for the leiomyosarcomas, we increased from 17 to 76 cases found before 1959.

In this review, we found some interesting cases including six cases of leiomyosarcomas in small children, with the youngest being a newborn.³² We also found two more cases of leiomyomas in small children.

From our combined data, we found that the location of leiomyomas became more evenly distributed between the appendix and other positions along the colon as noted in the text, whereas, in our

previous data, the appendix was the favored site for leiomyomas. This finding is more than likely attributed to our increased data pool and thus, a more accurate finding.

The most common presenting symptoms continued to be pain and palpable mass for both the benign and malignant tumors, with weight loss being common among the leiomyosarcomas.

When one looks at metastases among the leiomyosarcomas, it is apparent that metastases is related to size. Those greater than 15 cm were more likely to metastasize, closely followed by those 5-9 cm. Those less than 5 cm seldom did (Table XI).

A look at the surgical treatment notes that the procedure most often used was resection for both the benign and malignant smooth muscle tumors.

It is our hope that we review some pertinent information about leiomyomas and leiomyosarcomas of the colon and appendix and, in doing so, serve to refresh a few memories, stimulate others, and teach a few.

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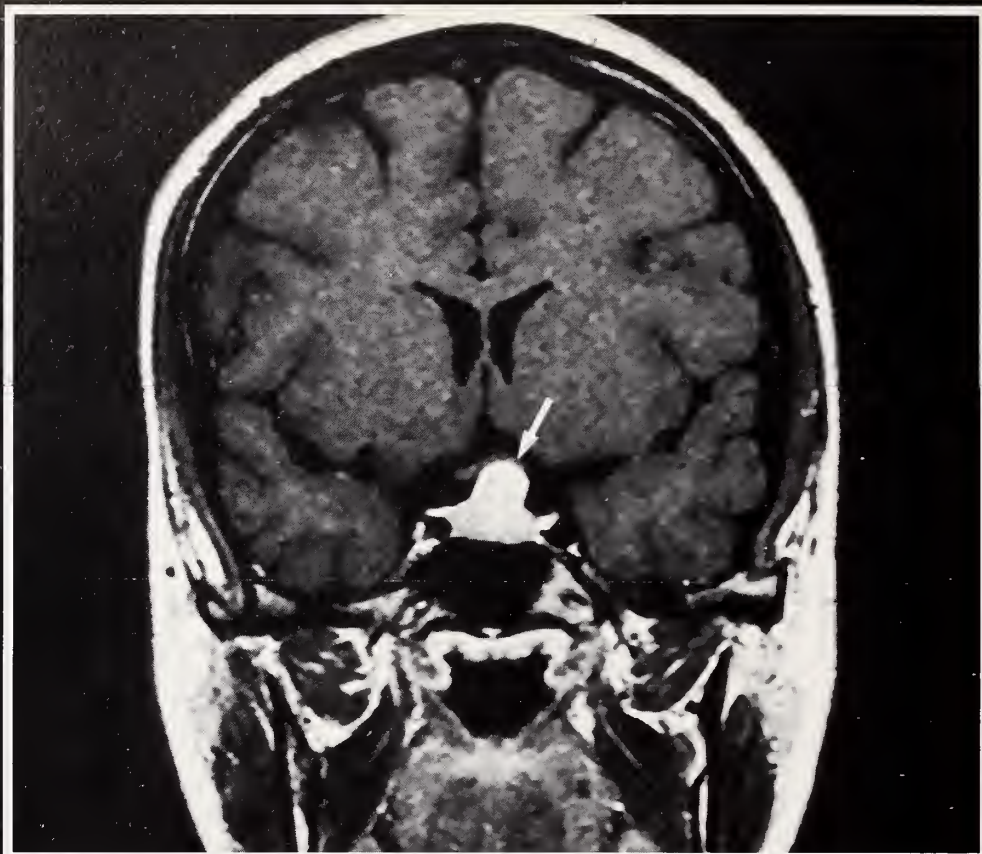
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Smooth Muscle Tumors of the Rectum and Anus: A Collective Review of the World Literature

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IN 1898, Longuet¹ stated that the Hunterian Museum in London contained a polypoid rectal leiomyoma. It would be pleasant to think that it had been prepared in the 18th century by John Hunter himself. The specimen is probably no longer in existence, as the Museum was heavily damaged by bombs during World War II.

The first clinical record of a smooth muscle tumor of the rectum seems to have been made by Cambrai² in 1847. He removed a small submucous tumor from a 34-year-old woman. It recurred twice and was removed each time. This has been considered to be a succession of leiomyomas. Other early possible leiomyomas are cited by Grigg.³

Credit for the first confirmed leiomyoma of the rectum should be assigned to Malassez⁴ on the strength of two sentences in a discussion fol-

lowing the presentation of a case of rectal fibroma in Paris in 1872. In the first sentence, Malassez said he had a similar case which was a fibromyoma. In the second sentence, he said that the tumor being discussed ought to be looked at with a microscope. This was his only contribution, and it ended the discussion. Brief though his remarks were, Malassez had seen and had himself recognized a smooth muscle tumor under the microscope, while his colleagues were still describing tumors in terms of their shape and gross appearance.

The case of Carlier et al.⁵ in 1881 is more usually considered the first to be described. A 21-year-old woman had melena during pregnancy, and a tumor the size of a hen's egg presented at the anus during defecation and at delivery. It was polypoid and implanted above the internal sphincter. The pedicle

was ligated and the tumor removed. Maceration in chromic acid demonstrated smooth muscle fibers under the microscope. It was a well described case.

In 1891, Senn⁶ in this country reported the first laparotomy for a rectal smooth muscle tumor. The tumor weighed 12 pounds and was attached to the anterior wall of the rectum at the level of the recto-vesical cul-de-sac.

Longuet¹ compiled the first collection of cases of leiomyoma of the rectum. He found 15 published cases of which he considered seven to be doubtful or the information too meager to use.

In 1908, Exner⁷ reported the first two cases of leiomyosarcoma of the rectum. In both patients, the diagnosis had been external hemorrhoids. In the case of a woman aged 51 years, the tumor, which arose from the anal wall, had in-

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vaded the vagina. Amputation of the anal canal and resection of the vaginal wall were undertaken. Local recurrence several months later resulted in the patient's death 11 months after surgery. The second patient, a man aged 49, had rectal nodules removed by ablation. Following the pathologist's report, the anal canal was resected and a sacral anus established. The patient recovered but was not followed up for review.

Lapeyre⁹ reviewed 30 cases of all types of primary sarcoma of the rectum in 1920. Exner's two cases remained the only leiomyosarcomas. In 1933, Hartmann et al.¹⁰ collected 37 cases of smooth muscle tumors of the rectum and added one of their own. Osmond and Mautz¹¹ reviewed 22 leiomyosarcomas and added one of their cases in 1955. In 1962, Skandalakis et al.⁸ collected 2525 cases of smooth muscle tumors of the alimentary tract and published them in the form of a book. From the period 1881 to 1959, a total of 89 cases of leiomyoma and 54 cases of leiomyosarcoma of the anorectum were collected.

Scope of the Review

The aim of this collective review

is to supplement our previous review of smooth muscle tumors of the rectum and anus. In the previous review, the literature from 1881 through 1959 was reviewed. We subsequently reviewed the world literature from 1960 to 1989, thus updating our previous data. Beginning with the case of Carlier et al.,⁵ there have been 148 ca+w reports of leiomyoma plus 39 cases mentioned in collective series. There have been 168 case reports of leiomyosarcoma and 47 cases reported in series. These collective cases included 22 cases reported by Randleman;³⁰ he reported 19 rectal leiomyosarcomas and three anal leiomyosarcomas. Jaworski* reported seven rectal leiomyomas in his review, and Simmang and Reed²⁹ reported two anorectal leiomyomas in their review of leiomyomas of the gastrointestinal (GI) tract. It must also be noted that Walsh and Mann,* in their review of cases at St. Mark's Hospital in London from 1948-1979, reported 48 cases of smooth muscle tumors of the rectum and anus. These cases are important to report, but due to the fact that they were collective reviews, they are not in-

cluded within the tabulated data in this paper. There was one borderline case, and it is outlined within the text. Several cases of spindle cell sarcoma have been omitted, although they might well have been leiomyosarcomas. We have assumed that the cases of Stout are included in those mentioned in his chapter in Turell.¹²

Malignant recurrence following removal of a benign tumor poses a problem of classification. Two tumors were reported as leiomyosarcomas with a previous benign history, and 12 tumors were reported as leiomyomas which subsequently became malignant. Although this is somewhat confusing as to classification, it has seemed best to classify them under the form in which they were reported by the original author.

It should be mentioned that in the hopes of maintaining historic perspective, we have maintained the format originally used.⁸ Some of the original prose proved to be outdated and thus was eliminated, whereas some statements proved to stand the test of time and were maintained.

Histogenesis

Dr. Leslie Sobin, Chief of Gastro-

*Referenced in Bibliography of Cases Collected

TABLE I —
Age and Sex Distribution

Age	LEIOMYOMA						LEIOMYOSARCOMA					
	1881-1959		Total	1881-1989		Total	1881-1959		Total	1881-1989		Total
	M	F		M	F		M	F		M	F	
0-9	—	—	0	1	0	1	0	0	0	0	2	2
10-19	0	1	1	0	1	1	0	1	1	0	2	2
20-29	0	3	3	3	4	7	1	0	1	5	0	5
30-39	8	3	11	14	6	20	2	0	2	9	4	13
40-49	5	10	15	21	15	36	6	2	8	22	10	32
50-59	8	3	11	24	15	39	10	5	15	26	18	44
60-69	7	3	10	16	14	30	9	4	13	20	21	41
70-79	1	1	2	2	4	6	4	1	5	14	8	22
80-	1	0	1	2	0	2	0	0	0	1	2	3
Not stated	4	2	6	4	2	6	0	0	0	3	1	4
Total	34	26	60	87	61	148	32	13	45	100	68	168
Series cases			29			39			9			47
GRAND TOTAL			89			187			54			215

intestinal Pathology at the Armed Forces Institute of Pathology, provided the following information about the histogenesis of smooth muscle tumors: "In the GI tract, most smooth muscle tumors seem to arise from indigenous smooth muscle. Sometimes we see small leiomyomas entirely in the muscularis mucosae of the rectum or in the muscularis propria of the stomach. There are some lesions that appear to have a vascular orientation, i.e., forming muscular structures around blood vessels. We speculate that these may be arising from vascular smooth muscle. Immunohistochemistry has not clarified this. In our hands, desmin is rarely positive in GI smooth muscle tumors, whereas smooth muscle actin is positive. Epithelioid smooth muscle tumors (the so-called leiomyoblastomas) are also probably of smooth muscle origin since we often see a spindle cell component associated with them. S-100 protein is rarely positive in smooth muscle tumors, and we do not find it difficult to separate neurogenic from smooth muscle lesions. We do not use the term 'GI stromal tumor' in a diagnostic sense; if used, we apply it generically."¹³

Incidence

Stout¹² was able to collect only 292 cases of rectal tumors other than adenoma and carcinoma. Of the 135 benign tumors, half were lymphomas, a quarter were carcinoids, and 10 (7.4%) were leiomyomas. The remainder were scattered among still less common tumors. Of the 44 malignant tumors, there were eight (18.2%) leiomyosarcomas.

A number of estimates have been made of the ratio of sarcomas to carcinomas.^{9,14} They range from 1:125 to 1:250 carcinomas, or from 0.8% to 0.4% of carcinomas. If, from Stout's experience, we assume that only 18% of these sarcomas will be leiomyosarcomas, we find an inci-

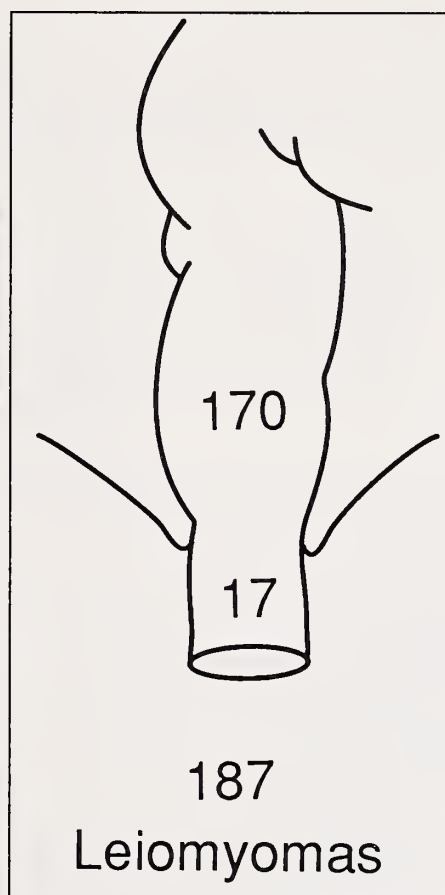


Figure 1 —Location of leiomyomas of the anorectum.

dence of 0.072% to 0.144% of carcinomas. Thus we may expect to find only one leiomyosarcoma of the rectum among 700-1400 carcinomas.

Leiomyomas should be only slightly more frequent; Stout had 10 over the same period of time that resulted in eight leiomyosarcomas. This incidence is higher than that estimated by Anderson et al.,¹⁵ who consider that one leiomyoma may be expected in 2,000-3,000 rectal tumors.

In our series, the number of leiomyomas and leiomyosarcomas reported was almost equal. In our completed review, our collective data included 187 leiomyomas and 215 leiomyosarcomas.

Age and Sex Distribution

The youngest patient with a lei-

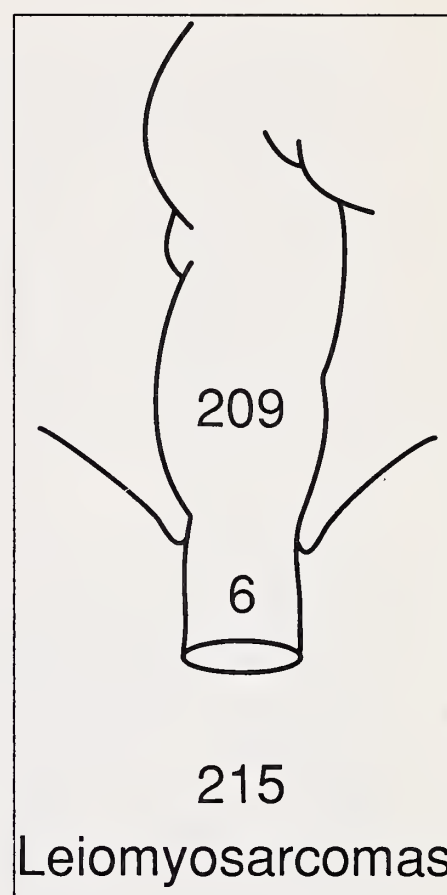


Figure 2 — Location of leiomyosarcomas of the anorectum.

myoma was a 2-year-old girl,¹⁶ and the youngest with a leiomyosarcoma were two female infants aged 12 days¹⁷ and 36 days.¹⁸ The 12-day-old infant was a unique case from Turkey. The oldest patient with a leiomyosarcoma was a 90-year-old woman.¹⁹

The peak incidence of leiomyomas of the anorectum in our review changed from 40-49 years of age to 50-59, with 71% of the tumors found in patients aged 40-69. Leiomyosarcomas also reach their maximum incidence in the 50-59 age group, with the next decade nearly as frequently affected (Table I).

The change in decade of peak incidence for the leiomyomas is probably a result of the increased data pool. From this increased data pool, one can assume that our present numbers are more reflective of

the true incidence. Only two cases were published at the time of recurrence, however, and three new cases were reported to recur later as a leiomyosarcoma. All the others are described in terms of their first appearance as leiomyomas.

When updating the previous data, we found an increased predominance of males with leiomyomas. Rectal leiomyosarcomas were found to decrease from 2 1/2 times to about 1 1/2 times as frequently in men as in women.

Location

The authors have some problems trying to report exact locations of these tumors in relation to the anal canal and rectum (Figures 1 & 2). Our definition of the surgical anal canal is the last 4 cm of the gastrointestinal tract or the 4 cm distal to the insertion of the pelvic diaphragm and the formation of the puborectalis. In other words, the segment 2 cm above and 2 cm below the pectinate line which includes the internal sphincter (smooth muscle) and the external sphincter (striated muscle) is the surgical anal canal. Smooth muscle arises from the splanchnic mesoderm and the striated muscle from the somatic mesoderm.

The precise location of smooth muscle tumors in the anal and rectal wall was rarely reported in the literature. Few tumors remained intramural, benign ones and malignant ones being essentially equal.

In our accumulated data, we found almost twice as many endorectal as exorectal tumors for both the leiomyomas and the leiomyosarcomas. There was no significant difference in the number which were endorectal or exorectal. Seven more cases of leiomyosarcomas, as well as nine leiomyomas, were found to be dumbbell-shaped (Table II). One case of leiomyosarcoma reported by Nemer et al.⁷³ was located in the rectovaginal septum and was treated by abdomino-

**TABLE II —
Position of Tumors of the Rectum Related to Its Wall and Lumen**

<i>Position</i>	<i>LEIOMYOMA</i>		<i>LEIOMYOSARCOMA</i>	
	<i>1881-1959</i>	<i>1881-1989</i>	<i>1881-1959</i>	<i>1881-1989</i>
Exorectal	25	34	14	32
Endorectal	18	59	15	51
Both (dumbbell)	0	9	1	8
Intramural	5	11	2	13
TOTAL REPORTED	48	113	32	104

perineal resection. However, the patient later died of metastatic disease.

For all practical purposes, the numbers of exorectal, endorectal, dumbbell, and intramural cases are divided equally between malignant and benign smooth muscle tumors. Our new data on dumbbell and intramural tumors compare favorably with the old data. But exorectal benign tumors now seem to occur as frequently as malignant ones, and endorectal, both leiomyoma and leiomyosarcoma, are now by far the most common type of tumor.

Very small (2-3 mm) mucosal excrescences, sessile or pedunculated adenomas removed by biopsy forceps, have been examined by Turell and Brodman,²⁰ and at least one leiomyoma has been found. This could have arisen from nowhere but the muscularis mucosae.

There were a few leiomyoma cases of special note. Six cases of leiomyoma²¹⁻²⁵ and two cases of leiomyomatosis²⁶⁻²⁷ were found in the anal canal. One leiomyoma was also found in the ischioanal region.²⁸ In Simmang and Reed's series,²⁹ they noted two anorectal leiomyomas. Randleman's series³⁰ notes three cases in the anal canal. Hishida et al,¹⁶ in their extensive review of the Japanese literature, found four leiomyomas involving the anal canal. Jaworski* reported seven cases of rectal leiomyoma, and Walsh and Mann* presented 48 cases from the anorectal area,

44 from the rectum and four from the anus, as previously noted.

A few leiomyosarcoma cases are noteworthy as well. Two cases originated in the internal sphincter of the anal canal.³¹ One case was described as being within the anal canal,³² and one was found at the anorectal junction.³³ Hishida et al.¹⁶ also found one case of leiomyosarcoma of the anal canal in their review. Minsky et al.³⁴ describe a 3 cm nodule involving the anal sphincter that was treated with sphincter-preserving surgery and radiation therapy/chemotherapy with good results. One unique case was a leiomyosarcoma that was found within a colostomy after abdominoperineal resection for adenocarcinoma of the rectum.³⁵

Signs and Symptoms

The single most important sign indicating the presence of an anorectal leiomyoma is a palpable mass discovered on rectal examination. This sign was present in 35% of the patients in our review (Table III). For the 158 cases of leiomyosarcoma in whom symptoms were reported, hemorrhage (defined as frank bleeding or positive occult blood in the stool) was the most significant symptom/sign and occurred in 43% of the cases (Table IV). Other significant symptoms for leiomyosarcoma include constipation (35%) and palpable mass (32%), closely followed by pain and discomfort (29%). The sensation of fullness in the rectum was

present in at least 13 patients with leiomyoma and in 21 with leiomyosarcoma.

Other rectal symptoms found in both types of tumors included tenesmus, protruding mass, pruritus ani, diarrhea, or painful defecation. Fever was reported twice in the leiomyoma cases. One patient complained of painful coitus.³⁶

Anemia

Anemia was found in one patient with leiomyoma of the rectum.³⁷ The 12-pound tumor lay between the rectum and uterus. No melena or ulceration existed. Hishida et al.¹⁶ reported four more cases of moderate anemia. Moderate anemia was also reported in another case of leiomyoma.⁴⁸ Severe anemia was associated with three leiomyosarcomas, two of which had produced melena. Moderate anemia was present in 36 patients.

Though anemia is generally regarded as a significant symptom, bleeding, pain, palpable mass, and constipation are the four cardinal symptoms for both benign and malignant tumors.

Duration of Symptoms

The length of time the patient had symptoms was reported for 78 leiomyosarcomas. About two-thirds (66.7%) of the patients with leiomyosarcoma sought surgical relief within 1 year, and about one-half (46.2%) of those with leiomyomas did so (Table V).

The most sudden onset was in a patient with a leiomyoma who suffered from dysuria for 7 hours. Following a rectal examination, he passed fragments of tumor and died 13 hours later of hemorrhage.³⁹ In another case,¹¹ the patient's complaint was abdominal distention for a week. A dumbbell-shaped rectal tumor 15 cm in diameter was found at operation.

The maximum duration of symptoms was 18 years in a case of leiomyosarcoma, and 15 years in a case

**TABLE III —
Symptoms Reported in Patients With Leiomyoma of Rectum/Anus**

<i>Symptoms</i>	<i>1881-1959</i>		<i>1881-1989</i>	
	<i>Alone</i>	<i>Total with Symptoms</i>	<i>Alone</i>	<i>Total with Symptoms</i>
Hemorrhage	0	20	6	46
Pain/Discomfort	2	19	10	46
Weight Loss	0	5	0	6
Palpable Mass	10	37	14	49
Constipation	0	19	1	36
Dysuria	0	7	0	8
Sensation of Tumor	1	11	1	13
No Symptoms	3	3	7	7

**TABLE IV —
Symptoms Reported in Patients With Leiomyosarcoma of Rectum/Anus**

<i>Symptoms</i>	<i>1881-1959</i>		<i>1881-1989</i>	
	<i>Alone</i>	<i>Total with Symptoms</i>	<i>Alone</i>	<i>Total with Symptoms</i>
Hemorrhage	0	13	3	68
Pain/Discomfort	1	14	6	46
Weight Loss	0	8	0	24
Palpable Mass	7	33	14	51
Constipation	0	15	3	56
Dysuria	0	7	1	12
Sensation of Tumor	0	8	0	21
No Symptoms	—	—	0	0

**TABLE V —
Duration of Symptoms**

<i>Duration</i>	<i>LEIOMYOMA</i>		<i>LEIOMYOSARCOMA</i>	
	<i>1881-1959</i>	<i>1881-1989</i>	<i>1881-1959</i>	<i>1881-1989</i>
≤ 1 month	4	6	4	10
> 1 month but < 1 year	6	18	12	42
≥ 1 year	5	10	4	9
≥ 2 years	8	10	3	8
≥ 5 years	3	5	3	5
≥ 10 years	2	3	2	4
Total Reported	28	52	28	78

of leiomyoma. We can be suspicious of the 18-year history, since hemorrhoids were also present.⁷ In the leiomyoma case, however,

there had been intermittent bleeding for 15 years, so that the tumor may have been present for that length of time. Table V illustrates

one more case of leiomyoma and two cases of leiomyosarcoma that had a duration of symptoms lasting 10 years. The possibility that long-standing symptoms of rectal discomfort are due to hemorrhoids at first, rather than the tumor, should always be kept in mind.

Diagnosis

Diagnosis of smooth muscle tumors of the rectum is much easier than for similar tumors in the large or small intestine.

Leiomyoma

In 66 cases of leiomyoma, the preoperative diagnosis was reported. In 10 cases (15.2%), the diagnosis was correct. In another 10 cases in our data from before 1959, the diagnosis was "neoplasm of the rectum," and in 11 cases it was "carcinoma of the rectum." In the following 30 years, 24 cases were found that were described preoperatively as either "neoplasm" or "carcinoma" of the rectum.

Leiomyosarcoma

In 18 cases (20%) of the 91 in which diagnoses were reported, the preoperative diagnosis was "leiomyosarcoma." Sixty-eight cases were called "neoplasms," and one was designated "presacral dermoid cyst." Two were diagnosed as abscesses.

Differential Diagnosis

Exorectal tumors are the most difficult to diagnose. Poirier⁴⁰ has discussed some of the problems involved. Posterior extrarectal masses may be presacral cysts or may be neoplasms of the sacrum or pelvic bones. The latter hypothesis may be eliminated by radiography.

If the mass is anterior, prostatic enlargement, carcinoma of the bladder, and retroflexion of the uterus must be considered. An anterior mass low in the rectum in women can usually be diagnosed as a uterine leiomyoma after elimi-

nating the possibility of a vaginal cyst.

Masses attached to the anterior surface of the upper rectum are more difficult to identify. It may be impossible to distinguish rectal tumors from tumors of the uterus, broad ligaments, or ovaries. In four of our collected cases, uterine or ovarian tumors were diagnosed preoperatively.

Biopsy

Six benign and 24 malignant tumors were biopsied. In four of the former and 21 of the latter cases, these biopsies provided the correct diagnosis.

Roentgenography

In four patients with leiomyoma, the presence of the tumor was demonstrated radiologically.^{20, 41-43} In three patients, the report was negative. Strangely enough, due to the increased use of sigmoidoscopy and colonoscopy, the majority of these data comes from before 1959. No positive and only one negative radiologic report were mentioned in the most recent collected cases.

Radiologic reports were available in nine cases of leiomyosarcoma; four were negative, and five demonstrated the tumor.^{11, 44-47} None of the tumors demonstrated radiologically was less than 5 cm in diameter in our earlier reported cases, and this continued to be true in the subsequent 30 years.

Radiologic diagnosis is unsatisfactory in the anal canal, and poor even in the rectal ampulla. The authors feel, however, that with new technology (ultrasound, CT scan, angiography), the radiologist will be able to locate the mass, in spite of the fact that these modes were seldom reported as having been used.

Proctoscopy

Proctoscopy was reported in 10 cases of leiomyoma. Two were neg-

ative and eight positive. Thirteen proctoscopic examinations of patients with leiomyosarcoma showed evidence of the tumor.

Despite the fact that we do not have the numbers to support our opinion, we do believe that a careful proctoscopic examination is the most important diagnostic procedure for the diagnosis of endorectal and perhaps intramural tumors.

Pathology

Smooth muscle tumors of the rectum are similar to smooth muscle tumors elsewhere in the alimentary tract. The most marked difference is the rarity of degenerative changes even in large leiomyosarcomas. Only three cases of leiomyosarcomas^{34, 48, 49} and two cases of leiomyoma^{25, 50} were reported to have cystic degeneration, in contrast to this finding being so common in similar tumors of the small intestine. Only one case of calcification is reported, and this was in a large leiomyoma.

Twenty-three benign and 45 malignant tumors were ulcerated. Poirier⁴⁰ believes that ulceration, at least of the benign tumors, should be considered traumatic rather than degenerative. This would account for the relatively shallow craters of these tumors, and perhaps for the lack of hemorrhage to the point of anemia so frequently found with ulcerated tumors higher in the gastrointestinal tract.

Thirteen leiomyomas and seventeen leiomyosarcomas were described as encapsulated. It should be noted, however, that in the great majority of reported cases, pathologic findings were either not present or not reported.

Microscopic Pathology

Microscopic examination of a leiomyoma reveals muscle fibers arranged in whorls or interlacing bundles, usually with a thin pseudocapsule. Contraction of the smooth muscle of the tumor may

result in pain, as has been reported for tumors of the arrectores pilorum of the skin;⁵¹ contraction of uterine myomas has been seen in vitro.⁵²

Distinguishing between benign and malignant smooth muscle tumors microscopically can be difficult. In leiomyosarcomas, the whorls and palisades of cells are more evident and usually are not encapsulated. Evans' criteria⁵¹ for malignancy is still used today:

1. Increased cell size
2. Increased irregularity of cell size and shape
3. Lack of complete cell differentiation
4. Presence of short, plump cells with oval nuclei
5. Presence of cells with hyperchromic and multiple nuclei with variable staining reactions.

We agree with Morgan et al.⁵³ that the level of mitotic activity is the criterion for determining malignancy. The same authors reported three recurrent tumors in the stomach, duodenum, and jejunum which had high mitotic indexes of 2, 4, and 7. (A mitotic index is defined as the number of mitotic figures per 50 high-powered fields.)

We sympathize with the pathologist when he or she is unable to give a correct diagnosis in a case of smooth muscle tumor. That mitotic activity is the best diagnostic criterion nobody doubts. Flow cytometry and DNA analysis is of great promise for a better diagnosis and possible prognosis for these tumors. Appleman⁵⁴ reported that metastases developed in 13% of patients with benign gastric smooth muscle tumors with 1 to 5 mitoses per 50 high-powered fields.

Another phenomenon that gives ambiguous answers is the relationship between the size of the tumor and whether it is benign or malignant. Evans⁵⁵ reported that the size of the tumor is not an indication of metastasis. Appleman⁵⁶ reported that only one of his 49 cellular tumors with a low mitotic index be-

haved biologically malignant.

Recently, Chadwich et al.⁵⁷ reported leiomyomata and leiomyosarcomata in three children infected as infants with the human immunodeficiency virus (HIV). The tumors involved the lungs and GI tract, suggesting a nonrandom association with acquired immunodeficiency syndrome (AIDS). The author postulated that HIV infection may play a role in tumor formation.

Much remains to be learned about smooth muscle tumors from a pathologic aspect. The authors believe that modern techniques such as histochemistry and cytochemistry could create a greater understanding about the formation of these tumors. Studies need to be made to determine why alimentary tract tumors are rare and uterine ones are not, why smooth muscles are more likely to develop tumors than others, and why some malignant tumors tend to metastasize or recur more than others.

Dr. Sobin described the following criteria for malignancy: "In the absence of frank anaplasia, we rely mainly on size and mitotic activity. Tumors 6 cm or larger or those with over five mitoses per 50 high power fields are likely to have metastatic potential. Tumor necrosis also favors malignancy. The borderline area, viz tumors with low mitotic rate and large size, is a problem. We use 'smooth muscle tumor of uncertain malignant potential' in such cases. Unless a tumor is clearly benign, we often add that it is difficult to predict the behavior of smooth muscle tumors in the GI tract."¹³

Borderline Cases

One patient⁵⁸ was described as having a leiomyoma with sarcomatous transformation. The tumor appeared in the rectovaginal septum and was excised through the vaginal wall. It could not be assigned to either vagina or rectum at

the original operation. It recurred 1 year later and was removed except for a portion adherent to the rectum. Ten months later, it again recurred, invading the vagina. The patient died of uremia following a third and radical operation.

The behavior of this tumor was similar to that of rectal smooth muscle tumors in its recurrence and at the second operation could have been considered rectal in origin. Unlike other rectal tumors, however, it was found at the first operation to have undergone hemorrhagic necrosis. As this did not occur in other rectal tumors, one suspects a vaginal or other non-rectal origin, with a poorer vascularization than that which accompanies rectal tumors. We have not included this case in our tables of rectal tumors.

We found no cases in our recent review of the past 30 years that were reported as borderline pathology.

Size of the Tumor

The greater number of smooth muscle tumors of the anorectum, both benign and malignant, were between 5 and 10 cm at their largest diameter at the time of operation. Hishida¹⁶ reported the largest tumor, a 23-cm leiomyoma. Table VI presents three leiomyosarcomas that were reported to be within the 16 cm-20 cm range.

Metastases

Eight out of 45 (17.8%) leiomyosarcomas of the rectum metastasized in the pre-1959 data. One involved lymph nodes,⁴⁵ one the peritoneal fat,⁵⁹ three reached the liver, two appeared in the lungs,⁶⁰⁻⁶¹ and one metastasized to the orbit⁶² 6 months after operation. There was one case of infiltration into the soft tissue of the buttock.⁶³

In only three cases with metastases was tumor size stated. None was over 10 cm in diameter. Two tumors had caused symptoms for 2

TABLE VI —
Size of Tumors

Size of Tumor	LEIOMYOMA		LEIOMYOSARCOMA	
	1881-1959	1881-1989	1881-1959	1881-1989
< 5 cm	7	61	9	42
5-9 cm	28	45	15	72
10-14 cm	4	13	7	16
≥ 15 cm	4	5	0	3
Total	43	124	31	133

years, one for 1 year, one for 4 months, and one for 1 month prior to treatment.

Thirty-one of the 161 leiomyosarcomas found in the subsequent 30 years were reported to have metastasized. Thirteen of these metastasized to the liver. One case reported spinal metastasis.⁶⁴ Another case was reported to have metastasized to the adrenals.⁶⁵ Two cases were reported to have metastasized to the prostate.⁶⁶⁻⁶⁷ Five cases had metastasized to the lungs, and two were reported as diffuse. One was reported as having metastasized only to the pelvis.⁶⁸ Four had metastasis to lymph nodes and one to the brain. One was reported to have metastasis "to the abdomen" (probably the peritoneal cavity). The size of the tumor did not seem to reflect the propensity to metastasize nor the location of the metastasis.

Recurrence

As serious as metastatic spread of rectal tumors is their tendency to recur locally. Ten leiomyomas are reported to have recurred after operation, eight of them as leiomyosarcomas.^{16, 69-73} Two additional cases were described as leiomyosarcomas which had been preceded by leiomyomas.⁷⁴

Two leiomyomas were reported to have recurred because of incomplete resection the first time.^{75,76} Forty-seven leiomyosarcomas recurred

following operation. Three recurred twice, and one recurred three times.^{77,88} Even this alarming percentage of recurrence is too low.

Only 111 of the total 402 cases of benign and malignant tumors were followed postoperatively. The longest period of immunity was 17 years, and it recurred as hepatic metastasis.¹⁹ The original tumor was a low-grade leiomyosarcoma. The types of operation for those cases in which it was reported are shown in Table VII.

Concurrent Disease

Six patients with leiomyomas had neoplasms elsewhere. One had uterine myoma,⁷⁹ another had an

ovarian cyst as well as an urethral polyp removed earlier,⁸⁰ and the third had a thyroid adenoma.⁸¹ A fourth one had a malignant carcinoid removed 10 days before.³⁸ Another had a "rectal cancer" associated with his leiomyoma.⁸² The sixth one had primary carcinoma of undetermined origin.⁸²

One patient⁸³ suffered concurrently from megacolon, megarectum, and malrotation of the small intestine. The authors considered the megacolon to have preceded the rectal leiomyoma and to have been the result of the malrotation. Evacuation took place once a month. Correction of the malrotation was unsuccessful, and a total colectomy was performed. The patient died following a third operation for adhesions.

In the review of the past 30 years, we found one patient that had ulcerative colitis³⁸ and one that had cervical spondylitis.⁸² One also had hemorrhoids.³⁸

Among patients with leiomyosarcoma, two also had carcinoma of the rectum,^{63, 84} and one of these had adenocarcinoma of the jejunum in two separate locations. This patient's rectal carcinoma preceded the leiomyosarcoma by 18

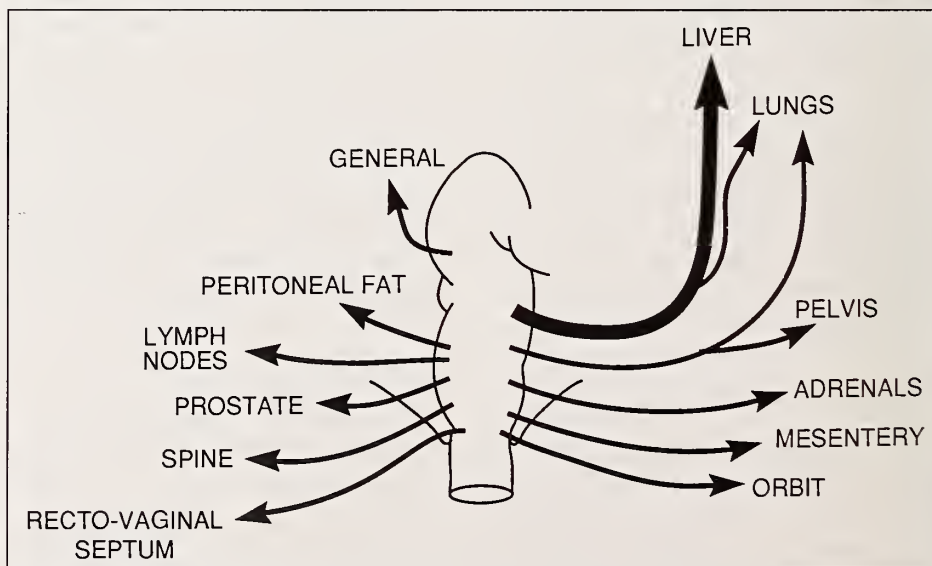


Figure 3 — Sites of metastasis from leiomyosarcomas of the anorectum.

**TABLE VII —
Surgical Procedures and Outcome in Patients
With Rectal/Anus Tumors**

<i>Surgery</i>	<i>LEIOMYOMA</i>		<i>LEIOMYOSARCOMA</i>	
	<i>1881-1959</i>	<i>1881-1989</i>	<i>1881-1959</i>	<i>1881-1989</i>
APR	0	22	11	88
Pedicle cut	9	12	2	2
Enucleation	23	25	3	4
Excision	9	56	18	45
Resection	8	11	4	13
Proctectomy	0	0	1	1
Removal by Cautery	1	1	0	0
"Extracted"	1	1	0	0
Operation not Specified	7	14	6	10
Not Operated	1	1	0	3

years. Another had adenocarcinoma of the rectum as well as the leiomyosarcoma.⁸⁵ One patient had a concurrent squamous cell carcinoma of the hypopharynx.⁸⁶ Another patient had been operated on previously for uterine fibroma,³⁶ and four patients had been operated for hemorrhoids. One patient was noted to have diverticulosis⁴⁸ and still another to have concurrent arthritis of the hips secondary to Paget's disease.⁸⁷

Treatment

*(If you can't fix it medically,
fix it surgically.)*

HIPPOCRATES

Location of the tumor is of primary importance. Strategy should take place prior to surgery after a colonoscopy and a barium enema. Since occasionally the colonoscopic location of the tumor is not 100% accurate, we always advise a barium enema. X-rays should be at hand in the operating room as well as a diagram by the endoscopist, and if the colonoscopy is done by the surgeon, then his or her own drawings with measurements indicating the distance between the anal verge and the tumor should be

in the operating room as well.

We follow the rules, regulations, and indications of the standard treatment of carcinoma of the anorectum in cases of malignant smooth muscle tumors. With a benign process, excisional biopsy and occasionally resection of the tumor through the endoscope is the procedure of choice, if the tumor has a pedicle or a narrow basis.

With smooth muscle tumors of the colon, the surgeon could perform a more radical operation if the pathologist is not sure about the benign or malignant nature of the disease, but with anorectal lesions, it is better, when in doubt, to perform a "curative procedure" after the pathology report is received. An abdominal perineal resection for a leiomyoma is not acceptable.

In the armamentarium of the surgeon, the following procedures for leiomyomas may be performed: wide excisional biopsy, with a margin of at least 2 cm; wedge resection; sleeve resection; segmental; and pedicle cut through endoscopy.

For leiomyosarcomas, there are several procedures as well. In the anterior resection, a rectosigmoid resection with anastomosis is performed just above or just below the

peritoneal reflection. With the low anterior resection, the rectum is mobilized to the point of the insertion of the pelvic diaphragm to the rectal wall (just above the puborectalis) or, in other words, to the proximal 12 cm of rectum, with an anastomosis below the peritoneal reflection. Abdominoperineal resection with permanent sigmoid colostomy is another option. Local electrocoagulation may also be performed as may intracavitary irradiation.

In other words, use anterior resection for lesions 12 to 16 cm proximal to the anal verge. Use low anterior resection for lesions 8 to 12 cm proximal to the anal verge. Abdominoperoneal resection should be implemented for lesions located at the surgical anal canal (last 4 cm) or for lesions located at the first 4 cm above the insertion of the puborectalis. With stapling devices, however, the anus can possibly be saved if the lesion is located 4 cm above the pelvic diaphragm, since 1 to 2 cm of the distal margin of resection is acceptable today.

In our collected cases, we noticed with surprise that in 22 cases of leiomyoma, abdominoperineal resection was performed (Table VII). We do not know the circumstances of these procedures, but, as mentioned earlier, a procedure this radical with permanent colostomy should not be performed except for large, benign, cavitated bleeding leiomyomas that the surgeon is unable to remove. If possible, the operation of choice should be a very low resection that saves the sphincteric apparatus.

In a recent, very thorough paper, the NIH Consensus Development Conference⁸⁸ recommended several points regarding the adjuvant therapy for patients with colon and rectal cancer. Perhaps the patient with non-epithelial "cancer" (leiomyosarcoma) will benefit if the surgeon and hematologist know that their patient is at risk and which

of the modern treatments is more effective.

Radiation

It is well known that malignant smooth muscle tumors are radioreistant. However, if the tumor is not resectable and if a bypass procedure has been done, considering radiation treatment for palliation is acceptable because it is the only treatment that we can offer to the patient.

Unfortunately, there are not enough patients treated with radiation that have been reported in the literature. Consentino et al.³¹ stated that complimentary radiotherapy or chemotherapy is ineffective. As previously discussed, Minsky et al.³⁴ have a patient on whom they performed a sphincter-preserving procedure complimented with radiotherapy with favorable results.

Chemotherapy

The use of chemotherapy in the treatment of leiomyosarcoma has, in general, been disappointing. The two most widely used agents are Adriamycin and DTIC. Adriamycin has been associated with response rates of 15-30 %, ^{89,90} whereas DTIC has been found to cause tumor regression in only 16%⁹¹ of the patients. When combined, Adriamycin and DTIC produce a slightly higher response rate than Adriamycin and DTIC alone; unfortunately, survival is unchanged. ^{92,93} At the present time, there is much controversy about whether this improvement in response rate justifies the additional toxicity of DTIC.

Of note, Ifosfamide, a new drug only recently released by the Food and Drug Administration, may prove useful in this disease. As a single agent, response rates in the 18-38% have been noted. ^{94,95} In combination with Adriamycin, with or without DTIC, response rates of 41-4% are seen. ^{96,97} At the present time, standard therapy is considered to be Adriamycin with or with-

out DTIC. It is hoped that Ifosamide will prove a useful addition to our armamentarium.

Chemotherapy in combination with radiation therapy perhaps will improve treatment, but there is minimal experience reported in the world literature. Recently, Knecht⁹⁸ presented good results in 17 patients with carcinoma of the anus who were treated with chemotherapy and radiation. He believes chemotherapy and radiation will replace abdominoperineal resection, but only the future will tell us more about this treatment.

Curative Curiosities

In 1876, Tedenat⁹⁹ observed a rare case of a patient who spontaneously expelled one rectal tumor and presented another, whose pedicle was crushed and the tumor removed. He also cited a case of Evraux in which two rectal tumors were expelled with hemorrhage each time. A third tumor appeared at the anus and was ligated. The patient apparently died of anemia. Longuet¹ considered these to be recurrent leiomyomas.

Grigg³ mentions two 18th century and two 19th century cases of spontaneous expulsion of tumors and one of forcible extraction.

Undoubtedly the most remarkable case is that of Gossage¹⁰⁰ who described in 1913 a tumor which had caused intussusception. The intussusceptum and tumor sloughed and passed out the anus,

while the intussusciptions and bowel above the intussusception spontaneously reunited, and the patient survived. It is unfortunate that we were unable to locate the original description of this case due to its incorrect citation by Fraenkel.¹⁰¹

Mortality

There was no evidence that sex distribution of fatal cases differed from that of incidence. The causes of death are given in Table VIII and subsequently described in detail.

Only one patient with rectal leiomyoma died without having been operated on.³⁹ Digital examination perforated the friable tumor and the rectal wall resulting in a fatal hemorrhage through a 5-cm hole. Four patients with leiomyosarcoma had no operation: three because of the extensiveness of the disease and one who left against medical advice.

Four patients with leiomyoma and four with leiomyosarcoma died immediately postoperatively from complications of surgery. One patient with leiomyoma died immediately after surgery from a bleeding ulcer.¹⁶ One patient with a benign tumor died 2 years later from obstruction due to recurrence.⁷⁰ Another case of leiomyoma was later fatal because of a complication of ulcerative colitis.³⁸ One patient died secondary to another primary carcinoma, and two reported by Hishida¹⁶ died later of metastasis. Forty patients with leio-

TABLE VIII — Causes of Death

	LEIOMYOMA		LEIOMYOSARCOMA	
	1881-1959	1881-1989	1881-1959	1881-1989
Died Unoperated	1	1	0	4
Died Immediately	4	4	3	4
Postoperatively				
Died Later	2	8	13	51
TOTAL REPORTED	7	13	16	59

myosarcoma died from recurrence, extension, or metastases.

Follow Up

In the literature, the follow-up studies are either not reported or very poorly reported. The authors feel that the surveillance should be the same as in carcinoma. Colonoscopies, barium enemas, chest films, hematologic studies, and other diagnostic tests should be performed to follow the patient after initial therapy is given.

Biannual colonoscopy for the first 3 years and annual colonoscopies for life are the advice of the authors. This advice does not follow the advice collected in the literature, which suggests annual examination for the first 2 years and then at 3-5 year intervals for life.¹⁰²

Recently, Michelassi et al.¹⁰³ presented an authoritative paper about local recurrence after resection of colorectal cancers. To summarize this in-depth paper would be a lengthy task, so the authors refer interested readers who deal with colorectal cancer to read it.

Prognosis

Prognosis is good in patients with benign smooth muscle tumors of the anorectum, if the correct treatment is performed. The mortality shown in Table VIII for leiomyosarcomas is deceptively low due to the few patients followed for any length of time. As noted in the section on Recurrence, 14 leiomyomas and 47 leiomyosarcomas recurred in patients followed for a year or more. The authors do question whether the so-called recurrent leiomyoma was pathologically diagnosed correctly before recurrence and if those recurring were completely removed at first operation. Endorectal pedunculated tumors seem to have the most favorable prognosis.

A patient with leiomyoma of the rectum having survived 39 years without recurrence is mentioned by Anderson et al.,¹⁵ but this is the

only such case we have encountered. Regardless of surgical procedure employed, very few patients can live for more than 5 years without reappearance of the rectal tumor. This dangerous statement springs from the analysis of the collected cases, but the authors believe that total removal of the benign leiomyoma which does not meet Evans' five cellular criteria⁵¹ will ostensibly result in a "cure."

Prevention

We know some of the risk factors perhaps participating in the production of epithelial tumors of the anorectum, such as a high fat diet. We also know some agents that may protect the colonic wall, such as fiber, carotinoid vegetables, and fluids in the diet. We do not know if the same criteria should be used for future protection from smooth muscle tumors. However, such a diet should be followed by everyone as a possible prevention.

Future Works on Smooth Muscle Tumors

Since the original presentation of smooth muscle tumors over 100 years ago, little has been written about the possible genesis of these tumors, a genesis de novo benign, de novo malignant, or finally benign with malignant degeneration or predisposition. Which are the etiologic agents of this disease? In the beginning, is there any carcinogenic process or malignant process to a benign leiomyoma? Is there a correlation between other primary tumors of the gastrointestinal tract of epithelial or nonepithelial origin? Perhaps oncogenes could be the answer here.

Despite the fact that we want to believe that we have collected and analyzed all these cases in the world literature — *errare humaum est* — still there are many questions that remain unanswered. If we, the clinicians, have a greater knowledge of the etiology, pathogenesis,

and possible carcinogenesis of this disease, we will be able to treat our patients better, to offer them better survival rates or even a "cure." Technology offers physicians and patients alike so much today, that early diagnosis and treatment can have excellent results.

The authors of this review of cases dare to advise the following decalogue for future work on smooth muscle tumors:

1. Adequate follow up for the formation of good survival tables.
2. Detailed surgical procedures with results and accurate location of metastasis.
3. Follow the criteria of Evans for the diagnosis of malignancy or develop a better one.
4. Anatomic location of the tumor or tumors is a must, especially in the anorectal area.
5. More complete work on the natural history of the disease is needed.
6. Additional studies to discover why smooth muscle is prone to tumor formation more than other muscle tissues. (If there are such studies, please forgive our ignorance.)
7. Further investigate the role of radiation for the treatment of leiomyosarcomas.
8. Further investigate the role of chemotherapy.
9. Further investigate the combination of both with or without surgery.
10. More studies for more effective anticancer drug treatment, as Bahnson and Lazo¹⁰⁴ recently advised that more genetic research should be done, such a monoclonal antibody production for early diagnosis, intracellular cytokine pathways of carcinogenesis, and others — not forgetting, of course, environmental studies.

Summary

In this collective review, we have compiled all the reported cases of

smooth muscle tumors of the rectum/anus in the world literature from 1959 to 1989. Our goal was to increase the data pool of smooth muscle tumors by adding these new data to that previously collected from 1881 to 1959.⁸ We increased the pool for leiomyomas from 89 to 148 and that for leiomyosarcomas from 54 to 215. By doing this, we hoped to make more accurate conclusions about smooth muscle tumors based on this increased data pool.

Some interesting findings included three cases in small children that were found in our recent review: a 2-year-old with a leiomyoma¹⁶ and two small infants, aged 12 days¹⁷ and 36 days,¹⁸ with leiomyosarcomas. Again, the findings were probably consistent with an increased data pool. We were also able to find several more cases involving the anal region.

We found the highest incidence of leiomyomas to have increased by a decade from the 40-49 year age group to the 50-59 year age group, while among leiomyosarcomas, there was about equal incidence among the 50-59 and 60-69 age groups. We doubt that these represent actual changes in the demographics, but rather that these latter findings are more accurate based on the greater quantity of cases available to us. As a further example, we found no appreciable sex difference; however, we did find more cases reported in females.

From our increased data pool, we were able to find 16 more cases that were described as dumbbell-shaped, compared to one that was reported before 1959.

Palpable mass, hemorrhage, and pain/discomfort continued as the most common symptoms reported at presentation. With regard to size, the majority of leiomyomas were found to be less than 5 cm in diameter, closely followed by those 5-9 cm. The majority of leiomyosarcomas were 5-9 centimeters at discov-

ery. Most cases of leiomyoma were treated by excision, while most cases of leiomyosarcoma were treated by abdominoperineal resection, a finding consistent with old data.

We hope that this paper thoroughly reviews pertinent information about leiomyomas and leiomyosarcomas of the rectum/anus and, in doing so, serves to refresh a few memories, stimulate others, and teach a few.

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Metastasis of Malignant Smooth Muscle Tumors of the Gastrointestinal Tract: Pattern and Process

John E. Skandalakis, M.D., Ph.D., F.A.C.S.
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We have to strive to keep our mind receptive, and to examine suggestions made by others fairly and on their own merits, seeking arguments for as well as against them. We must be critical, certainly, but beware lest ideas be rejected because an automatic reaction causes us to see only the arguments against them. We tend especially to resist ideas competing with our own.

W.I.B. BEVERIDGE,
The Art of Scientific Thinking

For all practical purposes, there are two types of malignant tumors with special characteristics:

1. Tumors that are able to invade but do not metastasize, such as basal cell carcinomas;
2. Tumors that metastasize. Therefore, invasion and metastasis are the two basic characteristics of malignant neoplasms of epithelial or nonepithelial origin.

Fidler et al.¹ and Poste and Fidler² presented excellent papers about cancer metastasis. Lee³ specifically reported pattern metastasis of leiomyosarcoma of the gastrointestinal (GI) tract.

It is also well known that cancers of epithelial origin metastasize pri-

In this article, we will present the general pattern of metastasis of the GI leiomyosarcoma to give the practicing physician some idea of the peculiar pattern of these extremely rare tumors.

marily by the lymphatic pathway, while nonepithelial malignant tumors, such as mesenchymal sarcomas, metastasize by the hematogenous route.

It is not the purpose of this paper to talk about the overall metastasis of nonepithelial tumors. We will

present the general pattern of metastasis of the GI leiomyosarcoma to give the practicing physician some idea of the peculiar pattern of these extremely rare tumors. Our presentation springs from our previous works ours as well as the most recent publications of other authors.

Metastases

Like most malignant neoplasms, failure to control or cure these tumors is related to their propensity for recurrence and/or metastases. While similar to other sarcomas with their ability to metastasize hematogenously, leiomyosarcomas also exhibit lymphatic spread as well as peritoneal seeding. Deck and Silberman reported 20 leiomyosarcomas of the small intestine and stated that they tend to metastasize not only hematogenously but also by peritoneal implantation, local invasion, and, uncommonly, by the lymphatic route involving regional or not related distant lymph nodes.⁴

Similar cases by Khan et al.,⁵ and Das Gupta et al.⁶ reported multiple leiomyosarcomas of the jejunum with metastasis to inguinal lymph

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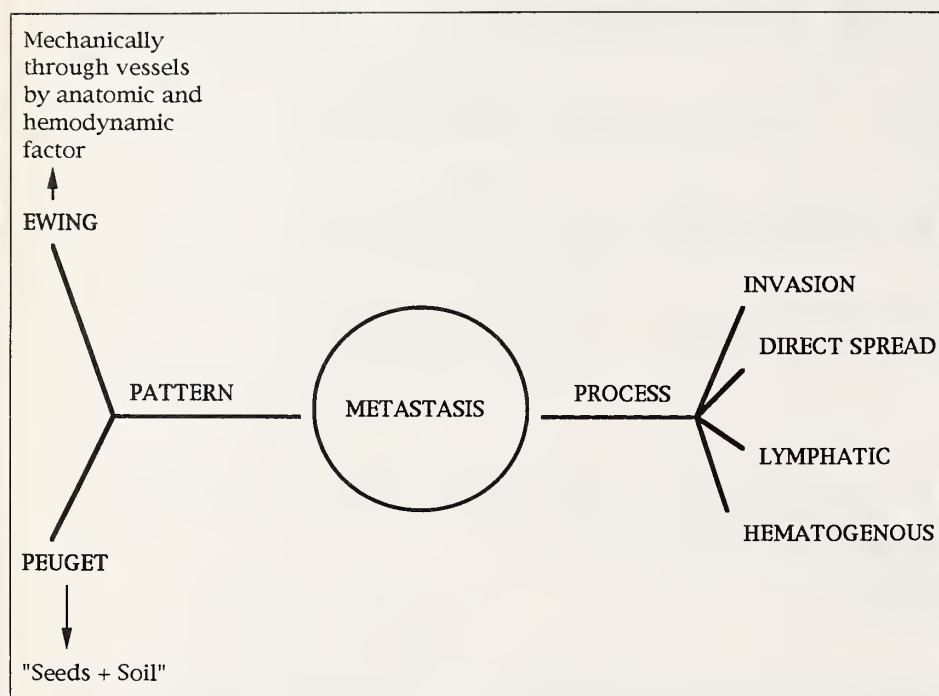


Figure 1—Schematic representation of pattern and process of metastasis of malignant tumors.

nodes. Evans⁷ reported blood-born metastases including liver, lung, bone, brain, kidney, adrenal glands, heart, larynx, skin, and various soft tissue sites. Akwari et al.⁸ reported peritoneal metastasis involving both membrane and omental implantations.

Brown⁹ described the recognized factors which determine, or are co-related, with metastatic potential as follows:

- a. Duration of symptoms. Paradoxically, the longer the duration of symptoms, the better the prognosis and apparently less potential for metastatic disease is seen.
- b. Tumor necrosis. This usually is indicative of a rapidly growing tumor and a high potential for metastatic disease.
- c. Location of disease. Certain sites, such as the duodenum, carry an extremely poor prognosis and show high metastatic rates.
- d. Tumor size at diagnosis. Large tumors that are greater than 9 cm have a high incidence of

metastatic disease, whereas small tumors less than 5 cm have a relatively low incidence.¹⁰

- e. Mitotic index. Tumors with 10 or more mitoses per high power field demonstrate aggressive behavior and frequent metastases. Those with five or less mitotic figures per 10 high power field are more indolent and show relatively low metastatic potential.¹¹ Grade of tumor and cellularity may also be important considerations, but far less so than the mitotic index.

We need more clinical and experimental investigation for a better understanding of the malignant smooth muscle tumors of the GI tract. We know more about carcinomas arising in the epithelium than these tumors of nonepithelial origin.

Shirouzou et al.¹² and Scanlon and Murthy¹³ discussed various invasions of cancer. Lee³ in his excellent article discussed the general pattern of metastasis and recurrence of leiomyosarcoma of the GI

tract and concluded that:

1. Mesenchymal sarcomas more frequently enter the blood stream directly.
2. About 33% of leiomyosarcomas of the GI tract developed metastasis and about 90% of the metastases were intra-abdominal.
3. The most common metastatic site is the liver, followed by peritoneal seeding and local recurrence or extension.
4. Regional nodal metastasis has been reported.
5. Mitosis is the most common diagnostic criterion.
6. All tumors longer than 5 cm are suspicious.
7. Necrosis and cellular atypia are also criteria for malignancy.

For all practical purposes, Hart¹⁴ agrees that the metastatic behavior of smooth muscle tumors of the GI tract in most cases is hematogenous, and in rare cases is through the lymphatic route. The percentage of tumors which actually metastasize increases from the esophagus to the colon and falls sharply at the rectum. Table 1 compares the percentage of tumors metastasizing from different levels of the alimentary tract and the percentage of tumors which recur.

Blood borne metastasis, chiefly to the liver, is the most frequent mode of spread of all but intestinal and colonic tumors, where spread is more commonly by serosal implantation. Lymphatic dissemination is associated with all segments of the tract. Invasive spread is the least common type.

The liver filters out blood-borne malignant cells in most instances so that in only 15 cases were there extra-abdominal metastatic sites. Lungs and pleura are the most common of these. A few tumors reach the arterial circulation and establish themselves in such sites as the orbit,¹⁵ ribs and breast,¹⁶ humerus,¹⁷ but these are rare.

Multiple implants on serosal surfaces of viscera, peritoneum, mes-

TABLE I —
Metastasis and Recurrence Related to Location¹⁸

<i>Location</i>	<i>Number Malignant</i>	<i>Number Metastasizing</i>	<i>Per Cent Metastasizing</i>	<i>Number Recurring</i>	<i>Per Cent Recurring</i>
Pharynx	2	0	0	0	0
Esophagus	36	9	25.00	3	7.9
Stomach*	175	45	25.71	8	4.6
Small Intestine & Meckel's Diverticulum*	214	67	31.31	17	7.9
Appendix & Colon	17	8	47.06	1	4.9
Rectum	45	8	17.80	14	31.1
Total	489	137	28.00	43	8.8

*1938-1959 only.

entery, and omentum from primary intestinal tumors are among the most discouraging findings at operation. There may be hundreds of such nodules present, and total extirpation may be impossible.

Lymphatic spread usually involves just a few regional nodes, and if sought for, these nodes can be identified and removed. Spread by infiltration and extension of the tumor is found chiefly in the mediastinum from the esophagus, in the pancreas and gall bladder from the stomach and duodenal tumors, and in the recto-vaginal septum from tumors of the rectum.

Figure 11 shows the percentage of malignant tumors metastasizing and recurring. The numbers of tumors given here are of only those tumors for which complete information is available.

In 1962, Skandalakis and Gray¹⁸ reported several hundred cases collected from the literature and presented metastasis recurrence as well as the peculiar spontaneous cures.¹⁸ What follows are portions of that study which has been updated with more recent data.

Age and Sex

Smooth muscle tumors are primarily diseases of middle age, yet there are variations in the decade of greatest incidence from one segment of the alimentary tract to an-

other. Leiomyomas occur at a younger age in the esophagus and colon than elsewhere. In the rectum, there is a difference between the sexes, women being afflicted about a decade earlier than men.

Infancy and childhood are almost exempt from these tumors. Only in the small intestine are there any number of patients in the first decade of life, but even there, the second and third decades have no unusually high incidence. The fifth decade remains the period of greatest frequency. The age of greatest incidence for each segment is shown in Table II.

The sex distribution of leiomyomas and leiomyosarcomas is confusing. In the esophagus, leiomyomas occur twice as often in men as in women, and in the colon, twice as often in women. Elsewhere, the

proportions are nearly equal. Meckel's diverticulum is affected in more men, but the diverticulum is present in a greater proportion of men in the stomach and the rectum. Where the benign tumors are equally distributed, the malignant tumors are more frequent among men.

In those locations where the sex distribution can be considered equal, there is always a very slight predominance of male patients, suggesting that in a large enough series there might be a significant preponderance of males in most portions of the alimentary tract (Table III).

Location

Many years ago, it was said that 60% of all smooth muscle tumors of the alimentary tract were to be

TABLE II —
Age of Greatest Incidence Related to Location of Tumors¹⁸

<i>Portion of Alimentary Tract</i>	<i>Leiomyoma</i>	<i>Leiomyosarcoma</i>
Esophagus	20—59 years	50—69 years
Stomach	50—59 years	50—59 years
Small Intestine and Meckel's Divertic.	40—59 years	40—59 years
Colon and Appendix	20—49 years	40—69 years
Rectum—Male	50—59 years	} 50—59 years
Female	40—49 years	

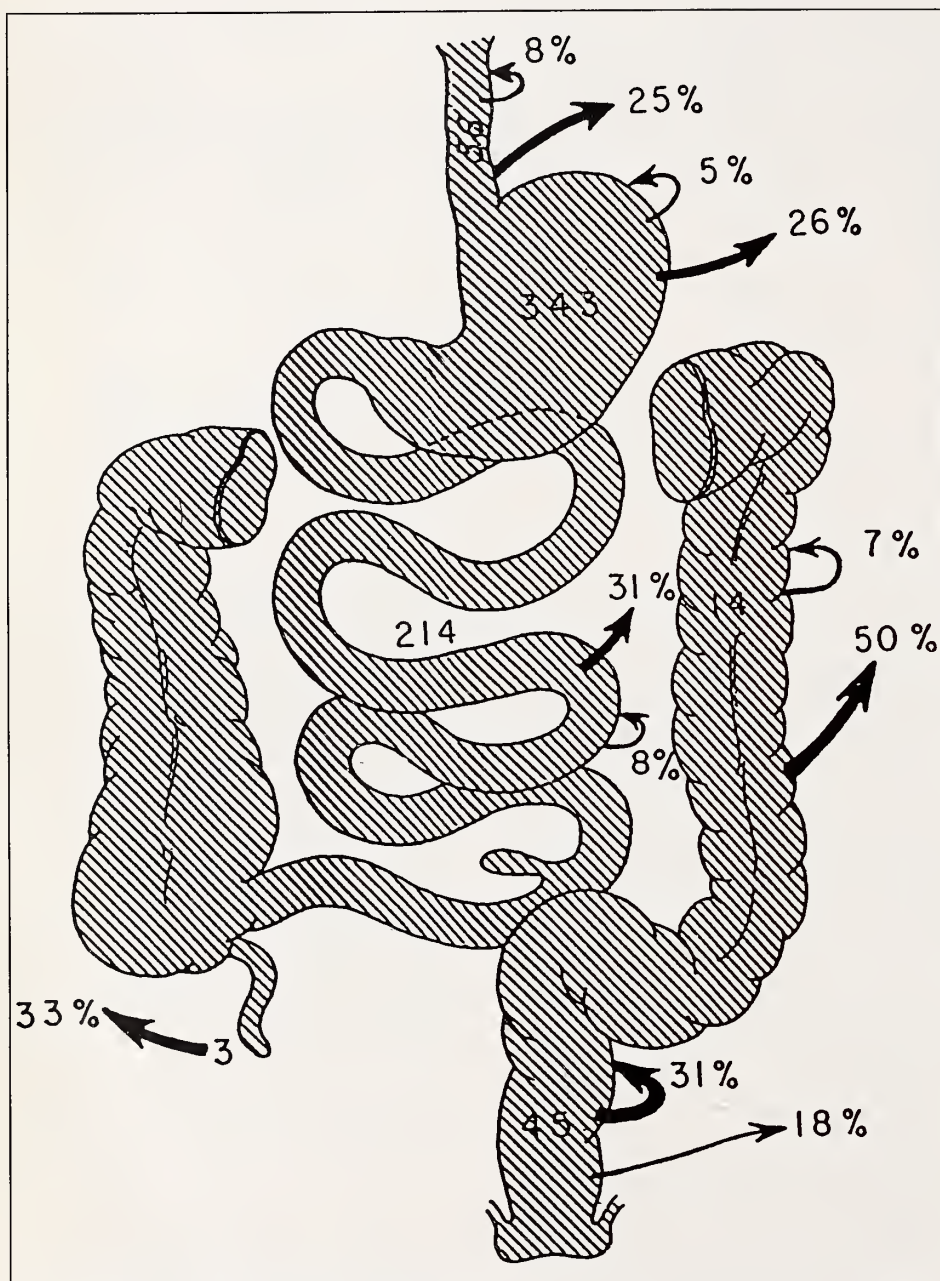


Figure II — Leiomyosarcomas of the alimentary tract, showing frequency of metastasis (outgoing arrows) and of recurrence (recurved arrows); width of arrow indicates frequency. (Figures for the small intestine are for 1937 to 1959 only.)¹⁸

found in the stomach.¹⁹ Increasingly accurate diagnosis has multiplied the number of non-gastric leiomyomas and leiomyosarcomas reported from other digestive organs to more than 50% of the total. Table IV shows the incidence of both benign and malignant smooth muscle tumors reported in the world literature through 1959. (Benign and malignant tumors do not

always add up to the total, which includes borderline and a few unclassified cases.)

It will be seen that there is great variation in the frequency of these tumors in the different parts of the alimentary tract, and that the benign and malignant tumors are similarly but not identically distributed (Figure 3). Both are most common in the stomach, but leiomyosarco-

mas are comparatively rare in the esophagus, and proportionately become more frequent in the small intestine. These differences in distribution imply either the differential operation of unknown etiologic factors or the existence of hitherto unstudied differences in smooth muscle tissues of different organs.

The position of the tumors with respect to the wall of the viscus involved does not remain constant. For example, in the stomach, almost three times as many leiomyomas project into the lumen as project outwardly, while in the esophagus, far more project outward than inward. On the other hand, most esophageal leiomyosarcomas project toward the lumen rather than outward. Esophageal tumors tend to be detected by the patient while they are small enough to remain in the wall, more frequently than do tumors elsewhere, hence the larger number designated as intramural. Table V shows the percentage of tumors in each position and each organ.

Of those tumors which exceed the confines of the viscus wall, whether benign or malignant, most become subserosal except in the stomach. Where tumors remain small, it is sometimes demonstrable that those which project into the lumen have arisen from the muscularis mucosae and those projecting outward have arisen from the muscularis externa. In most tumors, however, the exact origin has been obscured in the course of their growth.

In all portions of the canal except the rectum, leiomyomas tend to be smaller than leiomyosarcomas at the time of surgery (Table VI). As there is no essential difference in time elapsing from onset of symptoms to surgery in the two types, size difference is probably due to the faster growth of the malignant tumors.

The location of all anatomic portions of the GI tract, including such

TABLE III —
Sex Distribution Related to Location¹⁸

<i>Location in Alimentary Tract</i>	<i>Male</i>	<i>Leiomyoma Female</i>	<i>Ratio</i>	<i>Male</i>	<i>Leiomyosarcoma Female</i>	<i>Ratio</i>
Pharynx	0	1	—	0	1	—
Esophagus	133	71	2:1	20	11	2:1
Stomach*	134	131	Equal	113	67	2:1
Small Intestine*	93	83	Equal	94	90	Equal
Meckel's Diverticulum	5	1	5:1	9	6	?
Appendix & Colon	16	34	0.5:1	10	6	?
Rectum	34	26	Equal?	32	13	2.5:1
Totals	415	347	1.2:1	278	194	1.4:1

* 1938-1959 only.

TABLE IV —
Cases Reported Related to Location and to Type of Tumor¹⁸

<i>Location in Alimentary Tract</i>	<i>Cases Reported</i>	<i>Per Cent</i>	<i>Benign</i>	<i>Malignant</i>	<i>Per Cent Malignant</i>
Pharynx	3	0.12	1	2	66.67
Esophagus	390	15.45	348	36	9.23
Stomach	1158	45.86	811	343	29.72
Small Intestine	691	27.36	352*	242*	40.74
Meckel's Diverticulum	22	0.87	6	15	71.43
Appendix	21	0.83	18	3	14.29
Colon	96	3.80	66	30	31.25
Rectum	144	5.70	89	54	37.76
	2525	99.99	1691	725	30.00

* Excluding 109 cases not specified (Smith)

TABLE V —
Position of Tumors Within Wall Related to Location in the Alimentary Tract¹⁸

<i>Location</i>	<i>Number Reported</i>	<i>Exo-</i>	<i>Position in Wall (Per Cent)</i>			<i>Intramural</i>
			<i>Endo-</i>	<i>Both</i>		
Leiomyoma	470					
Pharynx	1					
Esophagus	76	42.1	11.8	—		46.1
Stomach*	169	21.3	58.0	6.5		14.2
Small Intestine & Meckel's Divertic.	144	53.5	20.8	14.6		10.4
Colon & Appendix	33	54.5	30.3	6.1		9.1
Rectum	48	52.1	37.5	—		10.4
Leiomyosarcoma	309					
Pharynx	2					
Esophagus	23	17.4	47.8	4.3		30.4
Stomach*	125	41.6	37.6	8.8		12.0
Small Intestine & Meckel's Divertic.*	119	63.9	14.3	15.1		6.7
Colon & Appendix	10	30.0	60.0	10.0		—
Rectum	32	40.4	46.9	3.1		6.3

* 1938-1959 only.

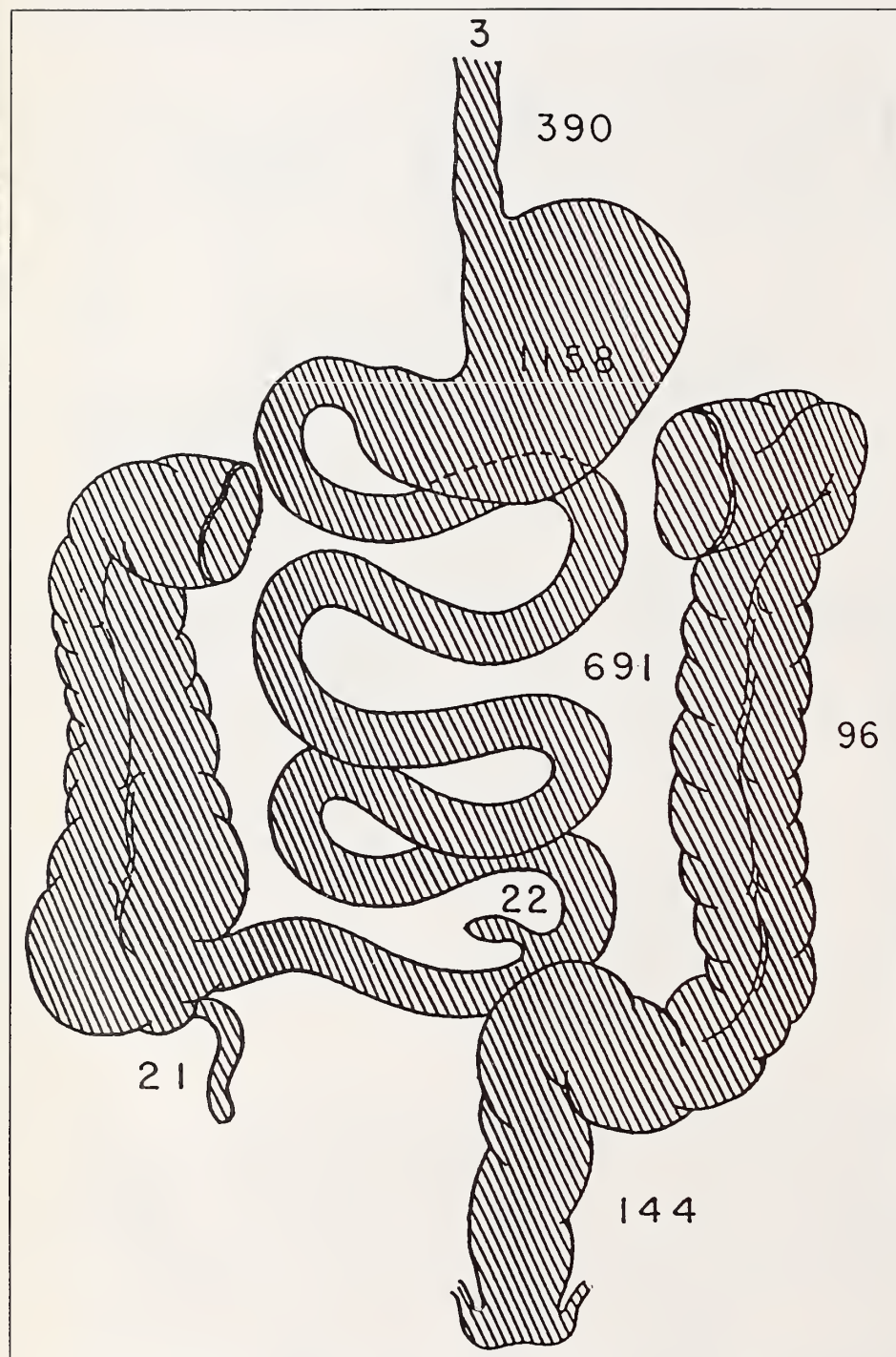


Figure III — Distribution of total reported smooth muscle tumors of the alimentary tract.¹⁸

exotic locales as the pharynx, duodenum, Meckel's diverticulum, and appendix, will be discussed in detail later.

Symptoms

Hemorrhage, pain, and a palpable mass are the most common

symptoms associated with alimentary tract smooth muscle tumors in general. In the esophagus, however, masses are not palpable, and hemorrhage is uncommon. Table VII shows the chief symptoms associated with each region, as well as the percent of patients in which

these occur. It will be observed that leiomyomas were asymptomatic more often in the esophagus and the small intestine than elsewhere. Leiomyosarcomas are almost never asymptomatic.

The patient with a smooth muscle tumor usually comes to surgery more than 1 month but less than 1 year after the onset of symptoms. Those with leiomyomas of the small intestine usually come within 1 month, perhaps because these tumors produce pain in a greater percentage of patients (59.5%) than do those elsewhere. A few patients give a very long history of vague alimentary tract disturbances. In some of these patients, the earlier symptoms were probably not related to the tumor found at operation. Tumors may even develop in hypochondriacs.

Pathology

Few differences in the appearance of these tumors from various locations can be seen. More hemorrhagic degeneration with fistula formation is found in intestinal tumors than elsewhere, and malignant tumors from non-serosal surfaces tend to be infiltrating (esophagus, duodenum and rectum) rather than circumscribed. Perforation which results occasionally in the stomach or small intestine does not occur in the colon.

Calcification is unusual, but has been described in tumors from all segments but the rectum. Table VIII shows the location of 25 leiomyomas and five leiomyosarcomas which were calcified. This incidence of calcification, while low, seems higher than that found in carcinoma of the digestive tract.

The lower rate of metastasis of rectal leiomyosarcomas is more than compensated for by the rate of their recurrence following surgical removal (Table I). While at upper levels, recurrence of smooth muscle tumors fluctuates between 4-8%, in the rectum nearly 33% of all

TABLE VI —
Usual Size of Tumor at Operation¹⁸

Location	Leiomyoma	Leiomyosarcoma
Esophagus	under 5 cm.	5 to 9 cm.
Stomach	under 10 cm.	5 to 9 cm.
Small Intestine	under 5 cm.	5 to 9 cm.
Appendix & Colon	under 5 cm.	5 to 9 cm.
Rectum	5 to 9 cm.	5 to 9 cm.

leiomyosarcomas recur. With adequate postoperative histories, the rate might approach 80%.

This tendency appears even among benign rectal tumors. While three leiomyomas in the stomach and one in the small intestine recurred, eight in the rectum did so, and of these, six recurred as leiomyosarcomas. In the rectum, recurrence is more to be feared than metastasis. No explanation has been offered for this peculiarity of rectal smooth muscle tumors.

Spontaneous Cures

While surgical extirpation of the tumor is the only practical cure for alimentary tract leiomyomas or leiomyosarcomas, whatever their location, some nine or 10 spontaneous cures have been recorded and

seem worthy of note.

In 1954, Savino²⁰ reported a case in which a detached walnut-sized leiomyoma was vomited 6 months after diagnosis of a tumor of the lower esophagus. In at least four cases,²¹⁻²⁵ pedicled tumors of the esophagus were vomited and subsequently removed by ligation and section of the stalk. All patients recovered except one²² that died of recurrence.

In 1958, Read²⁶ described a patient operated on for a duodenal obstruction which proved to be a pedunculated leiomyoma which had broken from its original site in the fundus of the stomach and become lodged in the duodenum.

In one of the earliest reports of intestinal leiomyoma in 1875, Pelizzari²⁷ briefly described a 500 gm

myoma previously palpated in the ileocecal region of a young girl which was expelled spontaneously. In another patient, reported by Heurtaux²⁷ in 1896, an apple-sized myoma palpated at the splenic flexure of the colon broke free and passed as far as the rectum from which it was subsequently extracted. Tedenat²⁹ later observed a patient who spontaneously expelled one rectal tumor and presented another, whose pedicle was crushed and the tumor removed. The situation in the case of this second tumor is less rare. Tedenat also cited a case of Evraux in which two rectal tumors were each expelled with hemorrhage. A third tumor presented at the anus and was ligated. The patient died, perhaps of anemia. Longuet³⁰ considered these to have probably been recurrent leiomyomas. Grigg³¹ mentions two 18th and two 19th century cases of spontaneous expulsion of tumors and one of forcible extraction.

Undoubtedly, the most remarkable case is that of Gossage³² who described a tumor which had caused intussusception. The intussusceptum and tumor sloughed and passed out the anus, while the

TABLE VII —
Most Frequent Single Symptoms Related to Location¹⁸

Location	Leiomyoma		Leiomyosarcoma	
	Symptom	Per Cent	Symptom	Per Cent
Esophagus	Dysphagia	48	Dysphagia	72
	Pain	48	Weight Loss	55
	Asymptomatic	13	Asymptomatic	0
Stomach	Hemorrhage	55	Hemorrhage	56
	Pain	38	Pain	44
	Asymptomatic	5	Asymptomatic	0
Small Intestine & Meckel's Divert.	Hemorrhage	62	Pain	62
	Pain	59	Hemorrhage	47
	Asymptomatic	10	Asymptomatic	1
Appendix & Colon	Pain	50	Palpable Mass	87
	Palpable Mass	45	Pain	60
	Asymptomatic	2	Asymptomatic	0
Rectum	Palpable Mass	70	Palpable Mass	87
	Hemorrhage	38	Constipation	40
	Asymptomatic	6	Asymptomatic	0

TABLE VIII —
Calcified Tumors¹⁸

	<i>Leiomyomas</i>	<i>Leiomyosarcomas</i>
Esophagus	7	0
Stomach*	12	2
Small Intestine*		
Duodenum	0	0
Jejunum	1	2
Meckel's Diverticulum	0	1
Ileum	1	0
Colon:		
Appendix	2	0
Ascending	1	0
Transverse	1	0
Descending	0	0
Rectum	0	0
Total	25	5

*1938-1959 only.

intussusciens and bowel above the intussusception spontaneously reunited. The patient survived. It is unfortunate that we were unable to locate the original description of this case (which is cited incorrectly by Fraenkel).³³

Principles of Treatment

Treatment of patients with leiomyoma or leiomyosarcoma is entirely surgical or very radical (superradical) if the term is permissible. A good illustration is the following case in a 40-year-old patient with leiomyosarcoma in the stomach reported by Lubbe et al.³⁴ The patient underwent hepatectomy with ex situ extirpation of multiple metastatic leiomyosarcomas and liver re-implantation. Since determination of malignancy prior to surgery or from frozen sections during surgery is frequently impossible, the surgeon should treat most of these lesions radically. Here one must apply Hippocrates' dictum, "*Experience is fallacious and judgment difficult.*" The authors feel that the physician who takes for granted the benign character of one of these tumors assumes a tremendous responsibility.

There are several factors never-

theless which play a critical role in determining the surgeon's decision: anatomic location of the tumor; whether it is pedunculated or sessile, intraluminal, extraluminal, or intramural; size; presence of metastases, etc. Age and general health of the patient are also be considered. Each surgeon must choose his or her own procedure while the search for the "ideal" operation continues. Success depends upon finding a procedure which will cure patients without handicapping them. There are cases in the literature with the diagnosis of benign leiomyoma, but the patients died from metastatic disease several years later.³⁵ This is why we especially emphasized the modern criteria of malignancy and the agonizing dilemma about the frozen section diagnosis.

In three regions, the surgeon must be especially careful: esophagus, duodenum, and rectum. Here the surgeon must think twice before wielding the knife, for here the generous resection possible in the ileum or colon cannot be lightly undertaken. Should the diagnosis be leiomyosarcoma, of course the tumor must be removed radically by esophagectomy, esophago-gastrec-

tomy, pancreatico-duodenectomy, or abdomino-perineal resection. This must be carefully planned and performed.

Although the authors recommend treatment of these tumors with radical procedures as in other cancer operations, palliative surgery should not be avoided where complete removal is impossible. These tumors grow so slowly, that the patient's useful life may be prolonged for years.

Future Work on Smooth Muscle Tumors

From the clinical aspect of these tumors, the greatest need is adequate follow up of patients. In spite of the respectable number of cases collected here, it is impossible to construct even tentative survival tables. Not only have patients not been followed for any length of time after surgery, we have seen published reports written before the patient was discharged from the hospital.

In view of the metastases and recurrences of leiomyosarcomas, and, for that matter, all sarcomas, they should be viewed as seriously as are carcinomas. There is little use debating the merit of surgical procedures without having a record of their long-term results. A patient discharged "alive and well" 2 weeks after resection of a leiomyosarcoma is not evidence of a cure. We would encourage authors of cases reviewed in this book to publish the 5 or 10-year sequels to their surgery.

From the pathologic aspect of these tumors, much remains to be learned about smooth muscle tissue. We believe that the modern techniques of today could throw much light upon the changes taking place in smooth muscle tumor formation. While alimentary tract tumors are rare, uterine tumors are not, and such studies could well commence with these latter. Additional studies of this type might de-

termine why some smooth muscles are more prone to tumor formation than others, and perhaps even why some malignant tumors are more prone to metastasize or recur than others.

Lastly, we would suggest that although it is almost unanimously stated that radiotherapy is useless for leiomyomas and leiomyosarcomas, this opinion is based largely upon experience with uterine smooth muscle tumors. Radiotherapy has been applied in a number of the cases of alimentary tract tumors that we have examined, but there is a surprising lack of adequate evaluation due to failure to follow the patients. While leiomyosarcomas may behave everywhere in the same fashion, the meager experience reported in this review does nothing to confirm or deny the reputed radio-resistance of the smooth muscle tumors in the alimentary tract. As to the radiation and chemotherapy, the reader will find the modern up-to-date answers, but by all means not all the answers in the two collective reviews elsewhere in this Journal.

Addendum

Orr, Buchanan, and Weiss in their book, *Microcirculation in Cancer Metastasis*, outline the manner in which cancer cells metastasize. Cancer cells can disseminate via three routes: veins, lymphatics, and body cavities. The basement membranes separating healthy from cancerous tissue are violated by these cells. The main routes of travel are via the lymphatics to the lymph nodes or to the blood stream via the thoracic duct. Metastasis to the target organs results from cancer cells directly entering the blood stream. When the cells reach the microvasculature, most are destroyed by a variety of processes. Once the cancer cell is arrested in the microvasculature, it must ex-

travasate in order to become clinically significant. The cells then establish themselves into micro-metastatic lesions. The final step in this process is the metastasis of metastases.

When Goethe was presented a translation of his Faust into French, he stated that this was artificial flowers. For this reason, we highly recommend reading the work of Orr, Buchanan, and Weiss for then you will be smelling the true aroma of real flowers.

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The Practice Outcomes of a Course in Flexible Sigmoidoscopy for Primary Care Physicians

Jay R. Varma, M.D., Bernard M. Schuman, M.D., Max D. Miller, Ed.D., Donald Murphy, Ed.D.

Introduction

FLEXIBLE SIGMOIDOSCOPY is a widely accepted screening and diagnostic tool for the detection of left-sided colonic pathology. The procedure has been shown to be safe and appropriately utilized by the primary care physician after residency training.¹ The American Academy of Family Physicians and the American Society of Gastrointestinal Endoscopy have suggested guidelines for training and use of this instrument by primary care physicians already in practice. These organizations have recommended a didactic experience and supervised practice using the 60 cm. flexible sigmoidoscope to obtain basic knowledge of indications, contraindications and techniques.² Reports indicate that flexible sigmoidoscopy is adopted as a routine office procedure after training programs by a large percentage of the trainees.^{3,5} However, research on the effectiveness of training methods has received

Abstract

A mail survey of 430 participants in a 2-day course on flexible sigmoidoscopy presented over the past 6 years was conducted to determine the extent to which flexible sigmoidoscopy was subsequently utilized in physician practice. Eighty percent of respondents performed the procedure in their practices on a regular basis. Two-thirds of the patients underwent sigmoidoscopy for screening. The course in flexible sigmoidoscopy appears to potentiate the motivation of primary care physicians to incorporate complete colorectal cancer screening in their practice.

scant attention in the medical literature.

The Section of Gastroenterology at the Medical College of Georgia has sponsored training courses in the use of the flexible sigmoidoscope since 1984. Introductory lectures on indications, contraindications, complications, colorectal pathology, use of the sigmoidoscopy, bowel preparation, instrument disinfection, and economics of the procedure are followed by hands-on training using a colon model and demonstration of the procedure by the faculty on patient volunteers.

The purpose of this paper is to report on six year cumulative course experiences and subsequent medical practices. These practices were ana-

lyzed by sending a questionnaire to all the physicians who had attended the course.

Materials and Methods

A one-time mail survey was sent to 430 physicians who attended a continuing medical education course on flexible sigmoidoscopy presented by the Medical College of Georgia from 1984-1989. A multi-part survey instrument was developed and sent to the physician-registrants to obtain information concerning the use of the flexible sigmoidoscope in their practices following participation in the CME course. In Part I of the survey, several biographical questions such as age, gender, specialty, and practice characteristics were asked. Part II consisted of questions related to

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TABLE 1 — Sigmoidoscopy Course Attendance by Region and State

	1985	Mar 1986	Oct 1986	1987	1988	1989	1990
South	75%	80%	87%	83%	78%	72%	76%
N.E.	13%	11%	13%	8%	16%	23%	20 %
Midwest	12%	9%	0%	9%	6%	5%	4 %
	N = 75	N = 93	N = 79	N = 87	N = 83	N = 86	N = 51
<i>Represented States</i>			<i>South</i>		<i>North</i>		<i>Midwest</i>
			AL		CT		AR
			FL		MA		IL
			GA		MD		KS
			LA		ME		KY
			MS		MI		MN
			NC		NJ		MO
			SC		NY		ND
			TN		OH		OK
			VA		PA		WI
			WV				
			Puerto Rico				

clinical practice such as the number of procedures performed, the most frequent pathologies detected, the methods of documenting results, and patterns of referral following detection of pathology. The last part of the survey dealt with participant training in performing the procedure.

Results

Of 430 participants mailed the questionnaire, a total of 174 (40%) responded. Although this large percentage of response is above average for this type of survey, physicians did not respond to all the items of the questionnaire. There was no follow up mailing. The breakdown of regional representation of participants in the course is shown in Table 1. The majority of participants were from the Southern Region of the United States. Forty-five percent of responders were in Family Medicine and 49% were internists. The other 6% were pediatricians or surgeons. Forty-seven percent of the respondents were in group practice and 49% were in solo practice. In respect to rural, suburban and urban practices, there was a response rate of 32%, 30%, and 38%, respectively. A majority of participants were male

(89%). The median age was 40%; the oldest participant was 71 years old, the youngest was 30. The median year of graduation from medical school was 1974. These participants had been in practice an average of 16 years at the time of attendance of the CME course.

Practice Characteristics

One-hundred-thirty-seven (80%) of the respondents performed sigmoidoscopy in their practice on a regular basis. Of the 33 who were not performing the procedure at the time of the survey, 24 indicated their intention to do so, although 11 of these 24 felt they needed additional training prior to initiating sigmoidoscopy in their practice.

Ninety-five percent of physicians performing the procedure used the 60 cm instrument rather than the 30 cm sigmoidoscope. The average number of sigmoidoscopies performed annually by responding physicians increased by more than 50% gradually from 1984 to 1989 (Table 2). The average depth of intubation was 44 cm.

Practice characteristics solicited by the survey also included indications for performing the procedure, pathology detected, documentation, and referral patterns.

Indications

In 66% of cases the flexible sigmoidoscope was employed for screening and in 33% of cases for

TABLE 2 — Annual Rate of Sigmoidoscopies Performed by Physicians Attending MCG Flexible Sigmoidoscopy Course

Year	Number Performing Sigmoidoscopy	Average number of Procedures/Year
1984	18	41
1985	24	38
1986	45	45
1987	80	51
1988	118	56
1989	135	69

diagnostic evaluation of symptomatic patients. There was no difference between family medicine and internal medicine in terms of frequency of examining asymptomatic and symptomatic patients. The presence of gross blood in the stool or a positive fecal occult blood test was the most frequent indication for performing the procedure in the symptomatic population (Table 3).

Pathology

The type and frequency of colorectal pathology detected by physicians was consistent with that anticipated in an older population (Table 4). Diverticulosis of the sigmoid colon was the most frequent finding followed by colorectal polyps. Colorectal polyps were detected in approximately 10% of patients undergoing the procedure. Cancer was detected by 59% of physicians performing the procedure. The cancer rate was not retrievable by the data.

Documentation

Forty-nine percent of the responders used hand written reports for documentation of the sigmoidoscopic procedure, whereas 44% had reports typed and 3% used a check list. One physician employed a computerized documentation system. For the majority of physicians, a manual search of patient medical records was the only method of information retrieval.

Referral Patterns

Seventy-nine percent of physi-

TABLE 3 — Rank of Indications for Flexible Sigmoidoscopy in Symptomatic Patients

Rank	Indication
1	Blood in stool
2	Diarrhea
3	Constipation
4	Abdominal Pain
5	Weight Loss

cians performing the procedure referred patients with polyps to a gastroenterologist whereas 21% had their patients see a surgeon for follow-up. Where cancer was detected, 32% made a referral to a gastroenterologist and 68% to a surgeon. In patients who had a positive fecal occult blood test with a normal flexible sigmoidoscopy, 56% indicated that they had sent the patient to a gastroenterologist, 31% sent their patient to a radiologist for barium enema study and 12% directly to a surgeon.

Training Characteristics

Following the course, 28% of survey respondents received supervised training on patients from a local physician participating in the ASGE-AAFP Preceptorship Program. Of interest, 22% took the course to supplement residency training experience. Only 4% went on to perform flexible sigmoidoscopy in the office without additional supervised training. Forty percent had variable patient training provided by local, experienced sigmoidoscopists (Table 5). Interest in advanced training was ex-

pressed by 60% of respondents.

Discussion

The flexible sigmoidoscope has become an important tool for colon cancer screening. In recent years primary care physicians have acquired training in the use of this instrument. It appears that internal medicine or family practice residency training in this procedure is highly predictive for future use in medical practice.¹ Whether postgraduate sigmoidoscopy training has an influence on subsequent medical practice has not been as definitely established. Our survey attempted to assess the effect of postgraduate training in flexible sigmoidoscopy on the practice of primary care physicians.

Groveman et al published data on the outcome of 1,153 participants in a one-day flexible sigmoidoscopy workshop.³ They concluded, on the basis of a survey questionnaire, that practitioners increased the number of their colorectal cancer screening procedures subsequent to the course. Short training programs such as ours and those described in the literature are intended to familiarize the physician with the instrument but cannot make the physician proficient in performing the procedure. Therefore, after such a course, physicians are urged to obtain training on 15-25 supervised procedures.³ However, this large number of supervised cases may be difficult to arrange and a smaller number may have to be acceptable to credential

TABLE 4 — Pathology Detected by Flexible Sigmoidoscopy

Pathology	% of Respondents Reporting Pathology
Diverticulosis	80%
Polyps	73%
Cancer	59%
Inflammatory Bowel Disease	47%

in-hospital flexible sigmoidoscopy.^{3,5} Unfortunately, Hawes⁶ noted that even after extensive instruction and practice on a colon model only 19% of the first ten patient examinations by residents using a 60 cm instrument were deemed competently performed. Almost one-half of our course participants managed to obtain supervised training by local experienced sigmoidoscopists. The number of training cases for each physician or their perceived level of competence was not retrievable from the survey data. However, only 4% actually proceeded to do sigmoidoscopy on patients without additional supervised instruction.

Rodney and Albers⁴ studied the effectiveness of flexible sigmoidoscopy courses measured by instrument acquisition and utilization patterns in practice. They concluded that physicians attending such courses have a greater likelihood of using this technique in their practice. This appears to be true in the group taking the course at the Medical College of Georgia, since 80% of the respondents were performing flexible sigmoidoscopy in their practice. Bowman and Wherry⁵ have stated that short CME courses on flexible sigmoidoscopy increased usage in individual medical practices.

Because documentation of patient information was either hand written or dictated/typed for the most part, retrieval of diagnostic data for analysis in our survey was not possible. However, a substantial number of physicians did identify polyps and referred patients for appropriate management. Seventy-nine percent of respondents referred patients with colorectal polyps to a gastroenterologist and 21% to a surgeon for a colonoscopy. In the cases of colorectal cancer 68% referred patients directly to a surgeon and 32% to a gastroenterologist for preliminary colonoscopy. In patients where a positive fecal oc-

cult blood test prompted a flexible sigmoidoscopy, which was found to be normal, just two-thirds of the physicians indicated referral for colonoscopy and 31% sent their patients for a barium enema. Thus, course participants realized that flexible sigmoidoscopy is not sufficient follow up for positive fecal occult blood test and that a negative sigmoidoscopy in the face of a positive fecal occult blood test requires either air contrast barium enema or total colonoscopy for follow-up.

Fifty-nine percent of our respondents felt a need for further training particularly supervised training on patients. Evidently, the course participants, after using the instrument in their office practice, with or without supervised training are not entirely satisfied with the skills developed from personal experience. Thus, primary care physicians who do only office flexible sigmoidoscopy appear to have some insecurity regarding the adequacy of their procedural skills.⁶ A better system for overseeing competency in flexible sigmoidoscopy must be devised if patients are to achieve maximum results from flexible sigmoidoscopy done by primary care physicians.⁷⁻¹¹ Perhaps community hospitals should organize periodic sessions by experienced endoscopists who can provide more supervised training in patient examinations.

Conclusions

Colorectal cancer continues to be a major health problem in the western hemisphere.¹² Training pro-

grams in flexible sigmoidoscopy for primary care physicians will need to be continued to ensure the widespread availability of screening procedures for the populations at high and average risk of developing colon cancer. Our survey indicates that these short training courses are effective in motivating physicians to seek out supervised instruction and for incorporating the procedure in their practice.

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TABLE 5 — Type of Training Following a Course on Flexible Sigmoidoscopy

<i>Type of Training</i>	<i>% of Survey Respondents</i>
Residency Training	22%
ASGE & AAFP Preceptorship	28%
Self-Taught	4%
Supervised training	40%
Other	6%

The Continuing Saga of the Medicare/Medicaid Anti-kickback Provisions: "Safe Harbors" or "Dangerous Minefields?"

Robert N. Berg

THE SAGA of the Medicare/Medicaid anti-kickback provisions is a long one and, based on recent events, one that is not yet finished. The story began in the early 1970s when Congress enacted the original anti-kickback provisions in order to "provide penalties for certain practices which have long been regarded by professional organizations as unethical, as well as unlawful in some jurisdictions. . . ."¹ Among these "practices" were the solicitation or receipt of kickbacks, bribes, rebates, and other remuneration in return for the referral of Medicare or Medicaid patients and services.

In order to combat these practices, Congress made it unlawful for any person knowingly and willfully to solicit or receive any remuneration (including any kickback, bribe, or rebate) directly or indirectly, overtly or covertly, in cash or in kind, in return for referring an individual to a person for the furnishing or arranging for the furnishing of any item or service for which payment may be made in whole or in part under the Medicare or Medicaid programs, or in return for purchasing, leasing, ordering, or arranging for or recommending purchasing, leasing or ordering any good, facility, service, or item for which payment may be made in whole or in part under the Medicare or Medicaid programs. Congress also made it unlawful for any person knowingly and willfully

Specifically, "safe harbors" have been created for investment interests; space and equipment rentals; personal services contracts and management contracts; referral services; purchase/sale of physician practices; payment and exchanges pursuant to warranties; discounts; payments to group purchasing organizations; and waivers of coinsurance and deductible amounts. 9

to offer to pay or to pay any remuneration in order to induce a person to make such a referral, purchase, lease, order, or arrangement.²

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Evolving Enforcement Efforts

For the next decade following its enactment, the anti-kickback statute was enforced only in cases involving blatant arrangements. These included successful prosecutions of cases involving rebates paid by clinical laboratories in exchange for Medicare/Medicaid referrals; extortion of cash payments and goods in return for referrals to pharmacies and physical therapists; and, the solicitation and receipt of cash payments from clinical laboratories in exchange for the referral of Medicare/Medicaid blood and tissue specimens.³

The storyline changed in 1985, however, when the federal government regulators prosecuted a physician in the case of *United States v. Greber*.⁴ In *Greber*, the Third Circuit Court of Appeals held that payments intended to induce a physician to utilize the services of a particular diagnostic facility violated the provisions of the anti-kickback statute, regardless of whether those payments were intended also to compensate the physician for actual, valuable professional services rendered. In particular, the Court upheld the trial court's charge to the jury that "even if the physician interpreting the test did so as a consultant to [the diagnostic facility], that fact was immaterial if a purpose of the fee [paid by the diagnostic facility] to the physician was to induce the ordering of services [by the physician] from [the diag-

nostic facility]."⁵ From this, the *Greber* case came to be read generally as standing for the proposition that *any* payment by a health care facility to a physician which is motivated, *even in part*, by a desire to induce the physician to refer patients to the facility, may constitute an unlawful activity under the anti-kickback statutes. Subsequent cases successfully instituted by the federal government regulators have approved and supported this broad interpretation of the anti-kickback provisions.⁶

Broad enforcement of the anti-kickback provisions resulted in a significant amount of confusion in those markets covered by the terms of the anti-kickback provisions — the markets for items or services paid for with Medicare/Medicaid funds. Indeed, this confusion was enhanced by the fact that a violation of the anti-kickback provisions carried with it significant criminal sanctions, including fines, prison terms, and exclusion from the Medicare and Medicaid programs. In order to alleviate some of this confusion, Congress enacted the Medicare and Medicaid Patient and Program Protection Act of 1987.⁷ Under this Act, the Secretary of the Department of Health and Human Services (HHS), through the HHS Office of Inspector General (OIG), was required to issue final regulations specifying various types of commercial arrangements and payment practices which will *not* be subject to prosecution under the anti-kickback provisions. These regulations were to be published in final form on or before August 18, 1989.

Instead of bringing clarity to an otherwise confusing situation, however, what followed after enactment of the 1987 Act was 4 more years of heightened confusion. Following one aborted attempt (draft proposed "safe harbor" regulations were issued by HHS on December

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22, 1988, and withdrawn 1 day later), the Secretary of HHS officially published for comment proposed "safe harbor" regulations on January 23, 1989.⁸ More than 750 public comments were received, criticizing or requesting changes in the 10 "safe harbors" proposed by HHS. Ultimately, on July 29, 1991, the final "safe harbor" regulations were published.⁹

New "Safe Harbors"

As published in final form, the regulations describe 11 "safe harbors," representing the 11 types of business arrangements or practices which, assuming all of the designated criteria are met, will not be prosecuted under the anti-kickback provisions. Specifically, "safe harbors" have been created for investment interests; space and equipment rentals; personal services contracts and management contracts; referral services; purchase/

sale of physician practices; payment and exchanges pursuant to warranties; discounts; payments to group purchasing organizations; and waivers of coinsurance and deductible amounts. Additionally, the preamble to the regulations indicates that HHS and OIG are considering additional "safe harbors" for certain types of arrangements, including price reduction arrangements between managed care plans and health care providers; certain additional types of investment interests involving "active" investors; physician recruitment practices; subsidies for professional liability insurance expenses; cross-referral arrangements; certain types of hospital service organizations; payments between entities having common ownership; and, purchase of physician practices by existing group practices. There is no indication of the HHS/OIG timetable for publishing these additional proposed "safe harbors."

Investment Interests

Of the 11 "safe harbors," the one that has generated the most amount of controversy and conversation is the safe harbor for "investment interests." By and large, this "safe harbor" is designed to deal with health care facility joint ventures, where a group of physicians invest in a health care facility, and then, subsequently, some or all of the investors refer Medicare or Medicaid patients or specimens to the facility.

The "safe harbor" regulations describe two different types of protected practices. The first essentially protects investments in very large entities, if certain criteria are met. Among others, these criteria include the following: (i) the entity in which the investment is made must have at least \$50,000,000 in assets (calculated in accordance with a very complicated formula provided in the regulations); (ii)

the investment must be in the form of equity securities registered with the Securities and Exchange Commission; (iii) the investment interests must be obtained on terms equally available to the public; (iv) the services marketed by the entity in which the investment is made must not favor investors; (v) the investment must not be purchased with funds loaned to the investor by the entity; and (vi) the amount of distributions to the investor must be directly related to the amount of the investment, rather than to any other factor, such as referrals.

The second type of investment interest protected under the "safe harbor" regulations is for joint ventures or investment interests in other small entities. In order for this "safe harbor" to apply, several criteria need to be met, including the following:

1. No more than 40% of the value of the investment interests in each class of investments may be held by investors who are in a position to make referrals, to generate business for, or to furnish items or services to, the entity in which the investment is made. As interpreted by the OIG this requirement is highly controversial in a number of respects: First, the OIG has indicated that, in its view, hospitals are deemed to be in a position to influence referrals, and are thus treated the same as physician owners of an entity who refer patients to that entity. Additionally, in many hospital/physician ventures, hospitals will render services for the venture (such as management services) or lease space to the venture; hospitals may also own a class of securities, separate from the class of securities owned by investing physicians. In all of these cases, for purposes of applying the "40-60" requirement, the hospital will be treated the same as referring physician investors (i.e., counted against the 40%, rather than in the 60%).

2. The terms on which the investment interest is offered (e.g., price and quantity of shares) must be the same for referral sources and investors not in a position to make or influence referrals.

3. The number of shares offered to be purchased and sold must not be connected or related to the expected number or value of referrals from any investor.

4. There can be no requirement, as a condition of making an investment or remaining as an investor, that the investor make referrals to the venture.

5. The way services are marketed and furnished by the venture can not preferentially favor investors.

6. No more than 40% of the venture's business in the previous fiscal year or previous 12-month period can come from referrals from investors. This is another highly controversial provision.

7. The investment cannot be made with funds loaned or guaranteed by the venture.

8. Finally, the return on the investment must be proportional to the amount invested, and not based on any other factor, such as the volume or value of referrals.

Failure to Comply with all "Safe Harbor" Requirements

From a practical standpoint, it is most unlikely that the "safe harbor" regulations will result in generating a significant amount of substantive protection for physician investors in health care facility joint ventures. By attempting to provide "bright line" tests in order to distinguish lawful ventures and those which create risks under the anti-kickback provisions, the HHS and OIG have promulgated regulations which, simply put, describe only those "squeaky clean" ventures which, even before the enactment of the regulations, generated little if any

risk of prosecution under the anti-kickback provisions. Conversely, legitimate joint ventures which, because of the broad interpretation of the anti-kickback provisions, involve some arguable risk of prosecution, would appear to retain some degree of risk after enactment of the "safe harbor" regulations, as it is doubtful they will meet all the requirements for falling within the "investment interests" safe harbor.

“From a practical standpoint, it is most unlikely that the “safe harbor” regulations will result in a significant amount of substantive protection for physician investors in health care facility joint ventures.”

The next obvious question, then, is "what is the effect of failing to comply with all the requirements for a particular 'safe harbor'?" The answer to this deceptively simple question is "no one knows." On the one hand, the HHS and OIG note in the preamble to the regulations that "this regulation does not expand the scope of activities that the [anti-kickback] statute prohibits. The statute itself describes the scope of illegal activities. The legality of a particular business arrangement must be determined by comparing the particular facts to the proscriptions of the [anti-kickback] statute." From this, it could certainly be argued that failure to comply with the "safe harbor" provisions does not itself result in a transaction being illegal, since it is the anti-kickback statute, rather

than the "safe harbor" regulations, which describe illegal, as opposed to legal, conduct. This would seem to be in line with the intent of Congress in requiring the "safe harbors" to be established.

Then again, at a different point in the preamble, the HHS and OIG state that "because the statute is broad, the payment practices described in the safe harbor provisions would be prohibited by the statute but for their inclusion here." This seems to indicate the exact opposite of the above quote — it seems to indicate that a violation of the "safe harbor" regulations would constitute a violation of the anti-kickback statute, as broadly interpreted by HHS/OIG.

Finally, the HHS and OIG appear to take a middle ground in the preamble: "The failure to comply with a 'safe harbor' can mean one of three things. First . . . it may mean that the arrangement does not fall within the ambit of the [anti-kickback] statute. In other words, the arrangement is not intended to induce the referral of business reimbursable under Medicare or Medicaid; so there is no reason to comply with the 'safe harbor' standards, and no risk of prosecution.

Second, at the other end of the spectrum, the arrangement could be a clear statutory violation and also not qualify for 'safe harbor' protection. In that case, assuming the arrangement is obviously abusive, prosecution will be very likely.

Third, the arrangement may violate the statute in a less serious manner, although not being in compliance with a 'safe harbor' provision. Here there is no way to predict the degree of risk. Rather, the degree of risk depends on an evaluation of the many factors which are part of the decision-making process regarding case selection for investigation and prosecution."

Conclusion

In 1987, when Congress mandated establishment of "safe harbors," it envisioned the end to the confusion then surrounding certain types of health care joint ventures and other business acts and practices. Instead, what we appear to have obtained is the opposite — more confusion; more need for guidance from federal government regulators in identifying transactions which do or do not involve significant risk of violating the anti-

kickback provisions; and, more litigation, as the courts sort out the various factors involved in deciding which types of transactions actually constitute violations of the anti-kickback provisions. Many physicians are involved in transactions covered by the broad scope of the "safe harbor" regulations (e.g., physicians who rent space from, lease equipment to, or are retained by hospitals). As the issues become more clear and we obtain more guidance, from the regulators and the courts, future *Journal Legal Page* articles will provide more specific treatment of individual "safe harbors."

Notes

1. H. Rep No. 92-231, 92d Cong., 2d Sess. (May 26, 1972), reprinted in 1972-1974 U.S. Code Cong. & Ad. News at 4989, 5093.
2. 42 U.S.C. § 1320a-7b [formerly 42 U.S.C. § 1395nn(b) (Medicare) and 42 U.S.C. § 1396h(b) (Medicaid)].
3. See, e.g., *U.S. v. Duzmor Diagnostic Laboratory, Inc.*, 650 F.2d 223 (9th Cir. 1981); *U.S. v. Perlstein*, 632 F.2d 661 (6th Cir. 1980); *U.S. v. Hancock*, 604 F.2d 999 (7th Cir. 1979).
4. 760 F.2d 68 (3d Cir. 1985).
5. *Id.*, 760 F.2d at 71.
6. See, e.g., *U.S. v. Kats*, 871 F.2d 105 (9th Cir. 1989); *U.S. Bay State Ambulance*, 874 F.2d 20 (1st Cir. 1989).
7. Pub. L. 100-93, effective August 18, 1987.
8. 54 Fed. Reg., p. 3088 (January 23, 1989).
9. 56 Fed. Reg., p. 35952 (July 29, 1991).

Current Diagnosis and Therapy of Soft Tissue Sarcomas

John P. Wei, M.D.

SOFT TISSUE sarcomas are an unusual group of heterogeneous tumors which have their origins in tissues which arise from the primitive embryonic mesoderm. As such, these malignancies may be situated throughout the entire body, wherever muscle cells, fibroblasts, endothelium, bone, or other connective tissue elements are located. Because of their complexity and their uniformly poor prognosis, the approach to the diagnosis and therapy of soft tissue sarcomas requires a multidisciplinary effort involving medical oncologists, radiation oncologists, and the relevant surgical specialties.

Incidence

In 1991, there will be 5800 new cases of soft tissue sarcomas, with 3300 disease-related deaths.¹ The age-adjusted incidence is approximately 2 per 100,000 population. Sarcomas represent 0.7% of all cancers; however, in children less than 15 years of age, they account for 6.5% of all childhood malignancies.

Etiology

Currently, the etiology of soft tissue sarcomas is unclear. No true genetic or hereditary risk factors have been isolated to identify those patients susceptible for the development of soft tissue sarcomas. It is known, for instance, that patients with Von Recklinghausen's neurofibromatosis have a finite risk for neurofibrosarcoma. In the Li-

‘The current consensus is to attempt preservation of limb function by performing wide local excision of a sarcoma and treating the operative site with postoperative radiation therapy. Overall survival appears to be equivalent to that from radical surgery.’

Fraumeni syndrome, an association between maternal breast cancer and sarcoma in the offspring has been established, and recently, the p53 gene defect on chromosome 17 was found to be the mechanism of heredity and genetic linkage.²

It is possible that exposure to industrial carcinogens may play a role in the causation of some soft tissue sarcomas; only a few instances of true chemical carcinogenesis have been found. The relationship between exposure to vinyl chloride monomer and the later development of hepatic angiosarcoma is generally accepted. Other

chemicals such as phenoxyacetic acid, chlorophenol, and dioxin have been implicated, but the association has not been confirmed.⁴

Radiation exposure after a long latency period can rarely induce sarcomas. The most common one to arise within a previously irradiated field has been osteosarcoma. There have been infrequent reports of fibrosarcoma arising on the chest wall in women who have received radiation therapy after mastectomy. In patients treated with radiation therapy for Hodgkin's disease, the incidence of secondary sarcomas is only 0.9%.⁴

Location

Soft tissue sarcomas may occur anywhere within the body. Extremity sarcomas account for 60% of these cancers, with the legs involved three times more frequently than the arms. The head and neck are involved in only 9%, with the chest and abdomen accounting for the remaining 31%.⁵

Pathology

The pathologic classification of soft tissue sarcomas is legion, encompassing every histologic tissue type in the body, with multiple variants ranging from benign to highly malignant tumors. It is impossible to develop a prognostic and staging schema for each individual cancer type, however, and except for certain histologic types, the clinical behavior and outcome of these sarco-

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mas can be correlated with pathologic criteria for aggressive behavior and malignancy.

Recent advances in medical technology have allowed more specific histologic diagnosis of soft tissue sarcomas. Immunohistochemical staining for tissue-specific cellular proteins such as vimentin, desmin, keratin, factor 8, S-100, and anti-chymotrypsin have made pathologic identification easier. Electronmicroscopy permits examination of intracellular structures such as actin-myosin complexes and microfilaments and can aid in the determination of the tissue of origin.

More recent innovations have included flow cytometry to quantitate ploidy status, cell phase fractions, and DNA index as a measure of proliferation. In some centers, karyotyping to identify chromosomal translocations, i.e., t(X;18) in synovial cell sarcoma, has increased diagnostic yield.⁶ Molecular biology techniques have allowed the examination of genetic influences: the correlation between the expression of the retinoblastoma-susceptibility gene, a tumor suppressor gene, and the clinical outcome of various soft tissue sarcomas has been identified.⁷

Presently, pathologic examination of soft tissue sarcomas to determine the grade of malignancy is based upon the number of mitoses per high power field, the degree of tumor necrosis, and the pheomorphic content of the tumor. The assignment of pathologic grade is often quite difficult, and there may be disagreement between pathologists.⁸

Staging

The current AJC staging of soft tissue sarcomas emphasizes the importance of pathologic grading: grade 1 (well differentiated) is Stage I; grade 2 (moderately well differentiated) is Stage II; and grade

3 (poorly) differentiated is Stage III. This staging system has correlated well with the clinical prognosis of the tumor, with the probability of 5-year overall survival diminishing with the increasing grade of the sarcoma.⁹

Preoperative Evaluation

The approach to a patient who presents with a soft tissue sarcoma begins with a thorough history and physical examination. Because of the propensity for distant metastases, signs and symptoms of pulmonary or skeletal metastases should be elicited. Soft tissue sarcomas can be locally invasive, and physical evidence of neurovascular or bony involvement may indicate unresectability or the need for amputation. The initial biopsy of the tumor must be carefully planned and executed. An excisional biopsy may be performed for lesions smaller than 3 cm in diameter; larger lesions should undergo incisional biopsy for diagnosis. Needle aspiration and tru-cut needle biopsy do not afford sufficient tissue for either histologic diagnosis or for pathologic grading. The planned biopsy incision should be placed in the direction of the longest dimension of the underlying muscular structure or else placed in such a manner so as not to compromise anticipated curative surgical procedures. Care to prevent incisional hematoma or infection must be taken to avoid affecting the subsequent definitive surgery.

Preoperative radiologic tests such as plain bone films, CAT scan or MRI through the area of the tumor, and arteriogram if necessary, may aid in delineating the extent of tumor invasion. MRI allows better conceptualization of the magnitude of the tumor and of the necessary surgical intervention because of the ability to recreate images in the coronal and sagittal planes, rather than the conventional trans-

verse views available with CAT scans only. Chest CAT scans and bone scans are useful in searching for distant metastases.

Treatment

Surgery

Surgery is still the mainstay of treatment for soft tissue sarcomas. Operative intervention should be directed with curative intent. The proclivity of soft tissue sarcomas to metastasize systemically, however, makes it prudent to balance the disability of radical surgery against the probability of potential cure. The ultimate goal of sarcoma surgery is to obtain maximum local control of the tumor by achieving adequate margins of resection: marginal excision of a sarcoma via dissection through the pseudocapsule has a local recurrence rate of 86%; wide local excision alone without the adjunct of radiation therapy has a local recurrence rate of 49%; and radical excision, involving amputation or muscular compartmental excision, can still have a local recurrence rate of 14%.¹⁰ The current consensus is to attempt preservation of limb function, if at all possible, by performing wide local excision of a sarcoma and treating the operative site with postoperative adjuvant radiation therapy. Randomized studies for extremity sarcomas have demonstrated disease-free survival and overall survival to be equivalent to that from radical surgery.¹¹

Radiation Therapy

Some patients will present with inoperable or unresectable soft tissue sarcomas. Radiation therapy can play an important role in treating these tumors. The use of radiation therapy alone can sometimes control the disease, although treatment failure rates can be greater than 50%. Other experimental means of delivering radiation in-

clude neutron beam, concomitant radiosensitizers, and intraoperative radiotherapy. Response rates have been variable, and the numbers of patients thus treated so far is too small to evaluate treatment efficacy.

Postoperative radiation treatment after wide local excision of a soft tissue sarcoma will provide an 85% local control rate.¹² In an attempt to extend the benefits of this combination, preoperative radiation therapy has been tested. Theoretical advantages from this approach include decreased tumor spread and implantation, smaller radiation fields, and the possibility of converting an inoperable tumor into a resectable one. In one series, the 5-year disease-free survival was 59%, with local recurrence rates of 10%.¹³ Preoperative radiation in conjunction with intra-arterial doxorubicin has been used to treat extremity sarcomas with reported limb salvage rates of 95%.¹⁴ Another innovative method of delivering radiation therapy has been with intraoperative brachytherapy, utilizing after-loading techniques with iridium-192 implants.¹⁵ Local control rates are improved, but thus far, no differences in survival have been seen.

Chemotherapy

The benefits of adjuvant systemic chemotherapy after surgical resection of a sarcoma is still controversial and unresolved. Several nonrandomized studies have demonstrated differences in disease-free survival, but prospective randomized trials from ECOG, Mayo Clinic, and EORTC failed to show a statistically significant difference in 5-year disease-free survival or 5-year overall survival. Two studies, one from the Instituto Rizzoli in Bologna and the other from the National Cancer Institute (NCI) initially demonstrated a statistical benefit in survival. As the NCI data have ma-

tured, the benefit is no longer statistically significant, although it still strongly suggests a survival advantage. At the present time, adjuvant chemotherapy after surgery for soft tissue sarcoma can only be recommended in the context of a clinical trial.¹⁶

For those patients who develop recurrent disease, 80% of those will recur within the first 2 years. A large majority who present only with local recurrence are able to undergo surgical resection again, but the 3-year survival is only 69%.¹⁷ In those patients who present with pulmonary metastases, 86% are surgically resectable, but the 3-year survival rate is only 32%.¹⁸

Chemotherapy for advanced disseminated disease has improved substantially. Higher response rates with multiple drug regimens are now being achieved. A promising regimen presently being tested includes doxorubicin, ifosfamide, and dacarbazine along with an urothelial protective agent, mesna. Measurable response rates of 47% have been reported.¹⁹

Summary

Soft tissue sarcomas are a difficult group of cancers to treat and require a multimodality approach. The ideal surgical procedure should obtain adequate resection margins and also attempt to spare limb function. Radiation therapy has a prominent role in preventing local recurrence of the tumor postoperatively. Other methods of delivering radiation therapy are currently being explored to achieve maximum benefit and minimize treatment complications. The role of postoperative adjuvant chemotherapy has yet to be defined, and ongoing clinical trials are in progress. As further advances in clinical and investigational sciences are uncovered, it is hoped that ultimately the best combination of treatments for this tumor will be found.

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STAR OF THE CHILD (Christmas Poem)

*The star of The Christ Child
Is said to have been
One great tear —
For children of an unhappy world
Wafted heavenward over Bethlehem!*

*Its divine light, never lost,
Was willed to children
Everywhere
From The Child, lying in His cradle —
Waiting with Mary and Joseph
For His cross —*

*Still it shines
In children's laughter, in their smiles,
Their unbounded joy —
As it reminds us
Now
The trek to Bethlehem
Was all worth-while!*

JOHN RANSOM LEWIS, M.D.
Plastic Surgery, Atlanta
Georgia Poet Laureate

MEDICINE IN EVOLUTION

*Physicians, if we ourselves could heal,
Then others in a true light we could see,
And help the many for once to feel
For life as it was meant to be.*

*We labor daily with intent
A multitude of illnesses to ease.
All these at best we should prevent
And bring Misfortune to her knees.*

*It's difficult from time to time
To deep our Prime Directive at the fore,
Directives of another kind
Shake Medicine to its very core.*

*Primum non nocere, our distinctive creed,
Has served our loved profession well.
Yet distractions past our patients' need
Have cast on us distorted spell.*

*Millions are spent perfecting drugs galore
To treat specific problems as they rise.
Then, by decree, our choices are no more,
Instead generic takes the prize.
The bottom line arrays its power,
Suborns intelligent thought by learned men.
Behind defensive medicine we cower.
On past experiences we cannot depend.*

*Perfect results the aim, yet infrequently attained.
To do our best no longer seems our guide.
A legal lottery attacks how we were trained,
And lays Dame Medicine on her side.*

*Yet, so difficult rising from the dust,
Medicine will never fly again unfettered.
But fly it must, and must,
By forewarned intent, be always better.*

*Yet, as Phoenix from the ash did fly,
Though Medicine as we know may not survive,
Amid Hippocrates' despairing cry
New strength from crisis will derive.*

*Though some say the enemy of good is better,
New young physicians will make better of the best.
We'll have to work through all of this together,
And working, learn again to ride the crest.*

W. H. BUNTIN, JR., M.D.
Anesthesiology/Pediatrics
Albany

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Sorter NA, Wasserman SI, Austen KF. Cold urticaria release into circulation of histamine and eosinophil chemotactic factor of anaphylaxis during cold challenge. *N Engl J Med* 1976;294:687-90.

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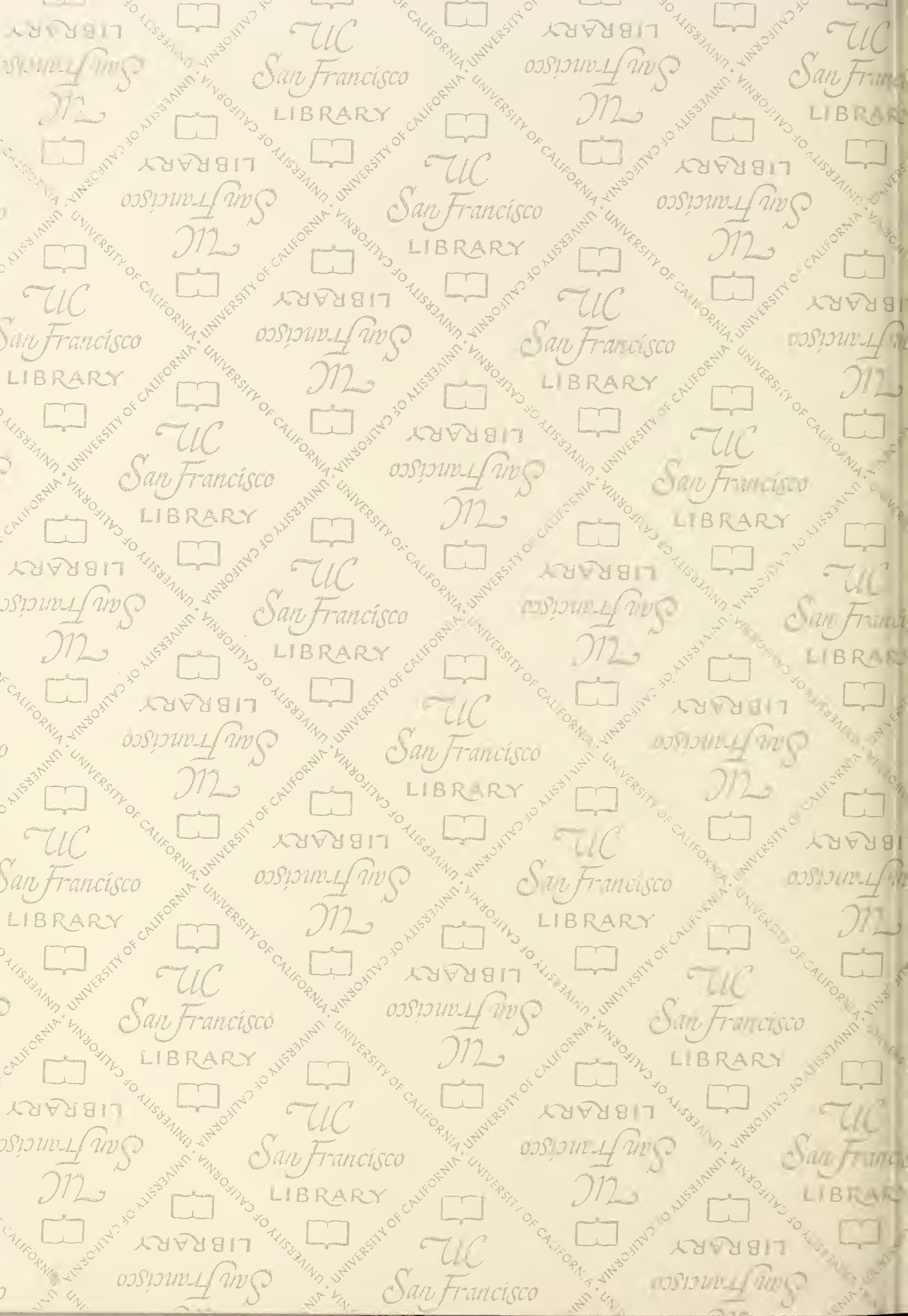
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